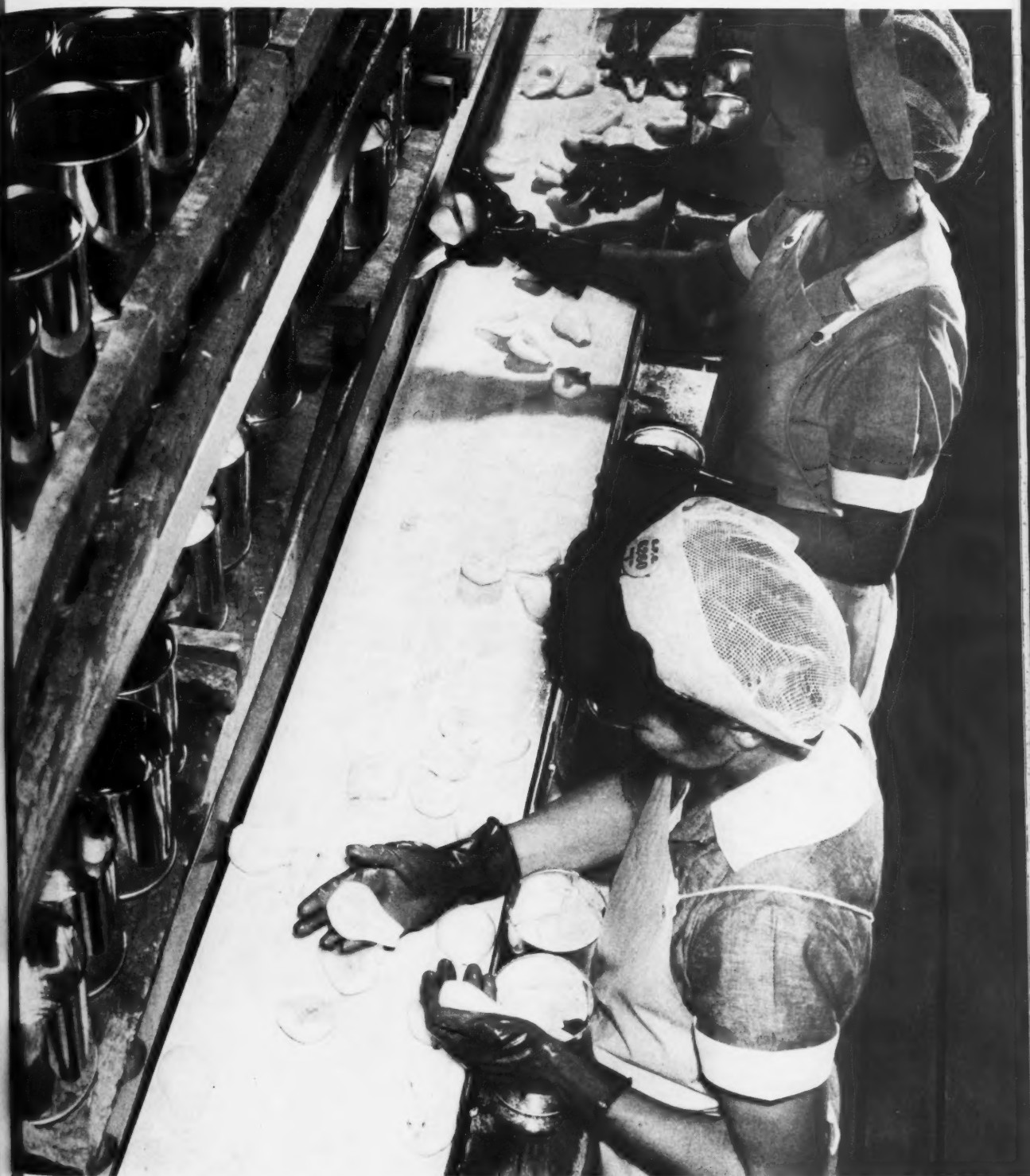


WESTERN INDUSTRY



• World's fruit canning center is the Pacific Coast. Here go pears off the belt and into the cans. For details see page 5.

AUGUST
1950 VOLUME XV
NUMBER 8

✓ **WAR ORDERS . . .** will you be ready for them? Check your preparation steps on p. 35

✓ **Packaging and Materials Handling Show** program, exhibitors, and products on p. 39

✓ **What is there about design of smart packages** that makes people buy more goods? p. 42

✓ **Do you control labor costs or do they control you?** Facts and figures on this on p. 48

There's more to a Wirebound box
than wood, wire and price!

Experience, manufacturing facilities and container know-how result in sound engineering, prompt service, dependability. Cabco has been manufacturing wooden containers since 1883. Facilities embrace every operation from logging to the finished wirebound. Cabco is the West's recognized leader in designing, developing and supplying wooden shipping containers.



NEW CABCO WIREBOUND SOLVES FIREBRICK EXPORT PROBLEM

The export shipment of large quantities of firebrick posed a tough container problem to Kaiser Aluminum & Chemical Company. A nailed crate first used was slow and difficult to pack, and had a net weight of over 30 pounds.

Cabco engineers designed a sturdy wirebound that reduced container weight to under 20 pounds, yet snugly, securely contained over 400 pounds of firebrick. The new wirebound also saved on labor costs, since it proved much easier and faster to load, handle and palletize. In addition, there was a saving in storage space.



Perhaps there is a new use for light, strong Cabco wirebounds in your business.

Cabco wirebounds fold up quickly, easily, ready for immediate use on the packing line.

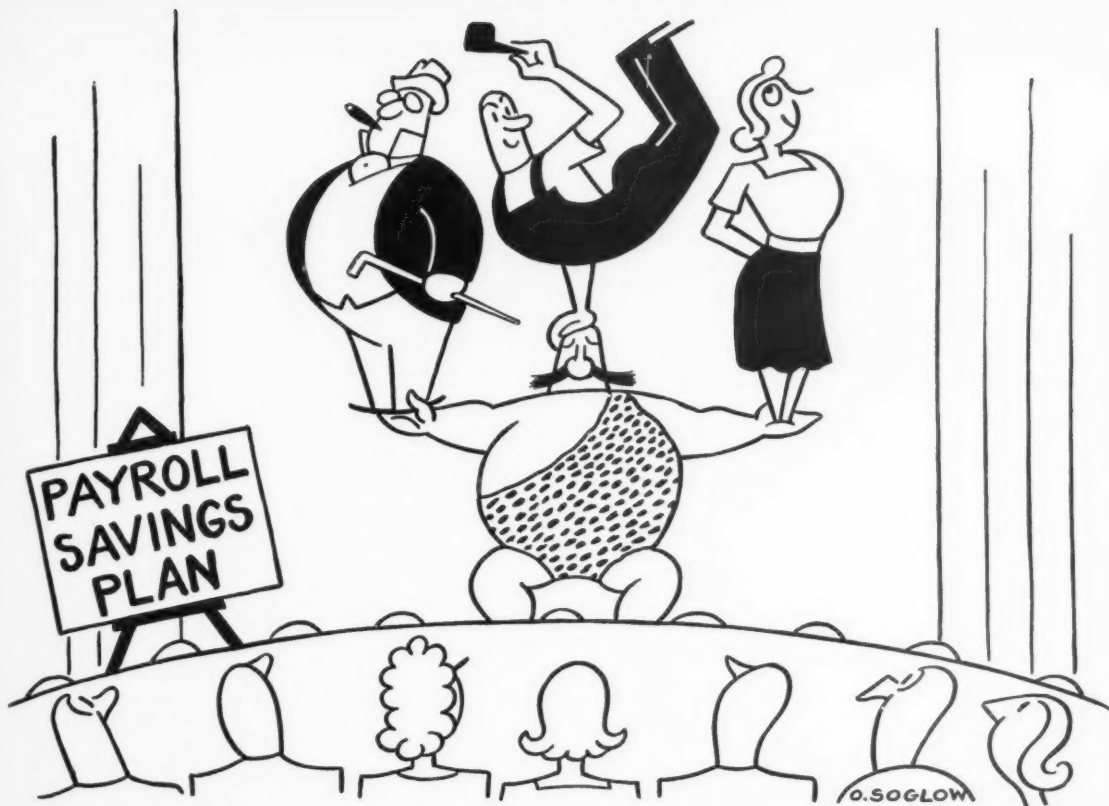
CABCO CONTAINERS

A product of the California Barrel Company, Ltd.

Sold only through

DUFF CALIFORNIA CO.

100 Bush Street, San Francisco 4, California
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BOOST THE PLAN that boosts everybody's security!

Everybody who invests in U. S. Savings Bonds gains security for himself—and contributes to the security of everybody else. When you promote sales of Bonds through the Payroll Savings Plan in your company, you promote not only the security of your employees but the security of your company . . . your own security.

Sound like an idealistic economist's theory? The managements of more than 20,000 companies are proving it in practice.

Employees who get Savings Bonds

regularly through Payroll Savings are building a sizable fund for their future needs. (As you know, at ten years these bonds return \$4 for \$3.) Whenever each worker gazes at his accumulation of Bonds, he realizes he's made a profit on his job. Moreover, he's aware he has a share in his country. He becomes increasingly resistant to any influences which might undermine our way of life.

Because he feels more secure, he quite naturally is also steadier and more efficient in his work.

The Bond program is a powerful force in leveling-off boom and bust peaks and valleys. Bond sales spread the national debt. What's more, the billions of dollars in Bonds add up to a tremendous backlog of purchasing power—a boost for your future business.

It's easy to push Payroll Savings in your company with the help of your State Director, U. S. Treasury Department, Savings Bonds Division. Call him, or write the Savings Bonds Division, Treasury Department, Washington, D. C.

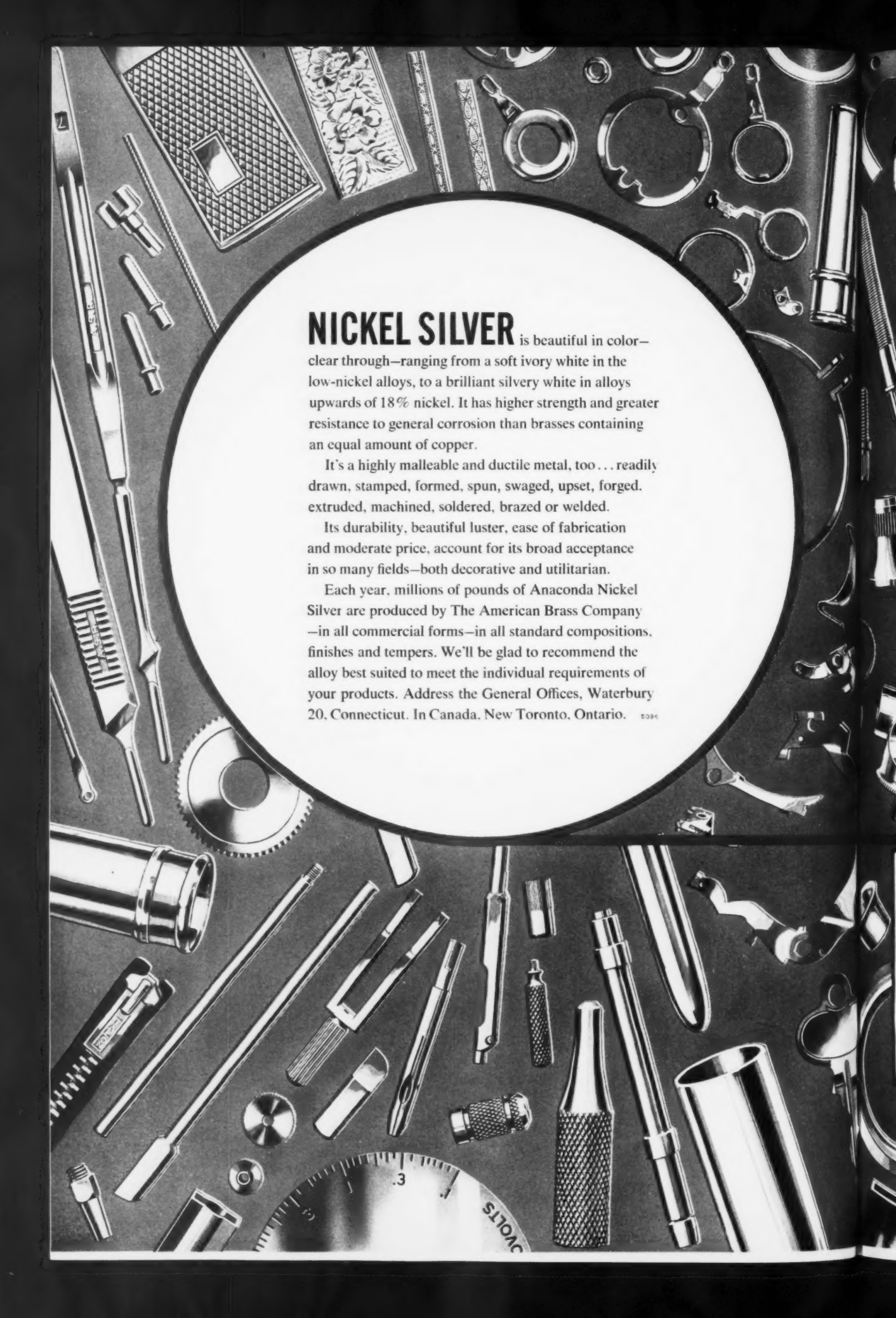
The Treasury Department acknowledges with appreciation the publication of this message by

WESTERN INDUSTRY

609 Mission Street, San Francisco 5, California
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This is an official U. S. Treasury advertisement prepared under the auspices of the Treasury Department and The Advertising Council.



NICKEL SILVER is beautiful in color—clear through—ranging from a soft ivory white in the low-nickel alloys, to a brilliant silvery white in alloys upwards of 18% nickel. It has higher strength and greater resistance to general corrosion than brasses containing an equal amount of copper.

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Its durability, beautiful luster, ease of fabrication and moderate price, account for its broad acceptance in so many fields—both decorative and utilitarian.

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the name to remember in **NICKEL SILVER**

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"Is it too late, Doctor?"

Sooner or later, one out of every five living Americans may ask his doctor this question about cancer.

THE answer may be: "Yes... I'm afraid so..."

But, today, the doctor can say to increasing numbers of cancer victims, "No, it is by no means too late... There is much that we can do... In fact, your chances for recovery are good."

This heartening reply reflects the great progress of medical science against cancer. And there is every reason to believe that, as the years go by, the ancient dream of conquering this disease in all its forms will be realized.

Cancer research supported by the American Cancer Society has already yielded new surgical techniques and improved methods of using x-ray and radium. More recently, research with radio-active isotopes has revealed facts about processes heretofore completely hidden in the body's cells. It has also given scientists new knowledge of hormones and certain anti-cancer drugs — thus making

possible more effective control of some types of cancer.

Part of the money you donate will support research that may save millions of lives. Won't you give — and give generously — so that sometime in the future doctors may never have to face another patient and say: "I'm afraid it's too late?"

Remember: Cancer can strike anyone, but you can strike back. There's hope — if you give for research and the other vital activities of the American Cancer Society.

HELP SCIENCE HELP YOU

Join the 1950
Crusade of the
**American Cancer
Society**



MAIL YOUR CHECK TODAY TO
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This Month in WESTERN INDUSTRY

VOLUME XV

AUGUST • 1950

NUMBER 8

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Later Than We Think But Not Too Late
The Morning Calm

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Front Cover

Western Canneries have for years packed the bulk of the world's canned fruit, and have done an outstanding job in mechanization of their operations. Picture shows canning line in California Packing Corporation's plant Number 3 at San Jose, Calif., with machine-peeled pears going into the cans.

GOOD VENTILATION IS GOOD BUSINESS



American Blower Utility Set

Put air to profitable use! In process work, American Blower Utility Sets will remove fumes, steam, heat and gases. For general ventilation, they will exhaust stale, smoke-laden air and supply fresh, clean air.

This helps to improve the products you make, through better employee morale, improved working and selling conditions, and less absenteeism through illness.

The Utility Set is ideal for general ventilation where duct systems are required. It can be used as a supply or exhaust fan, and is equipped with Aileron Control for regulation of air flow. Utility Sets are available as standard packaged units ready for immediate installation.

It will pay you to investigate our complete line of quality-built, time-proved American Blower units for heating, cooling, drying, ventilating, air conditioning and power transmission equipment. Our new West Coast plant, located at San Leandro, California, is in operation and ready to serve you.

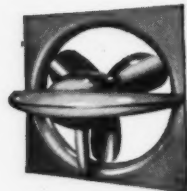
Ask our nearest Branch Office for data.

AMERICAN BLOWER CORPORATION, DETROIT 32, MICHIGAN
CANADIAN SIROCCO COMPANY, LTD., WINDSOR, ONTARIO

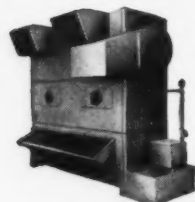
Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION



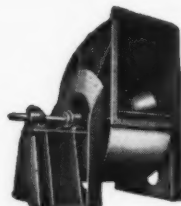
Unit Heaters



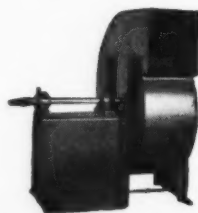
Ventura Fans



Air Conditioning Equipment



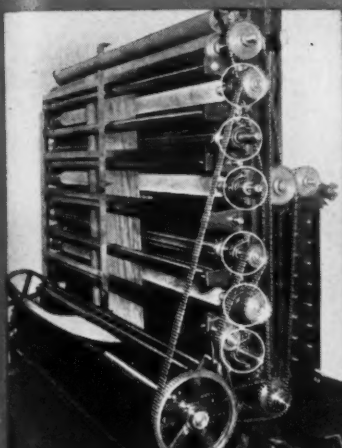
Industrial Fans



Type E Industrial Fans

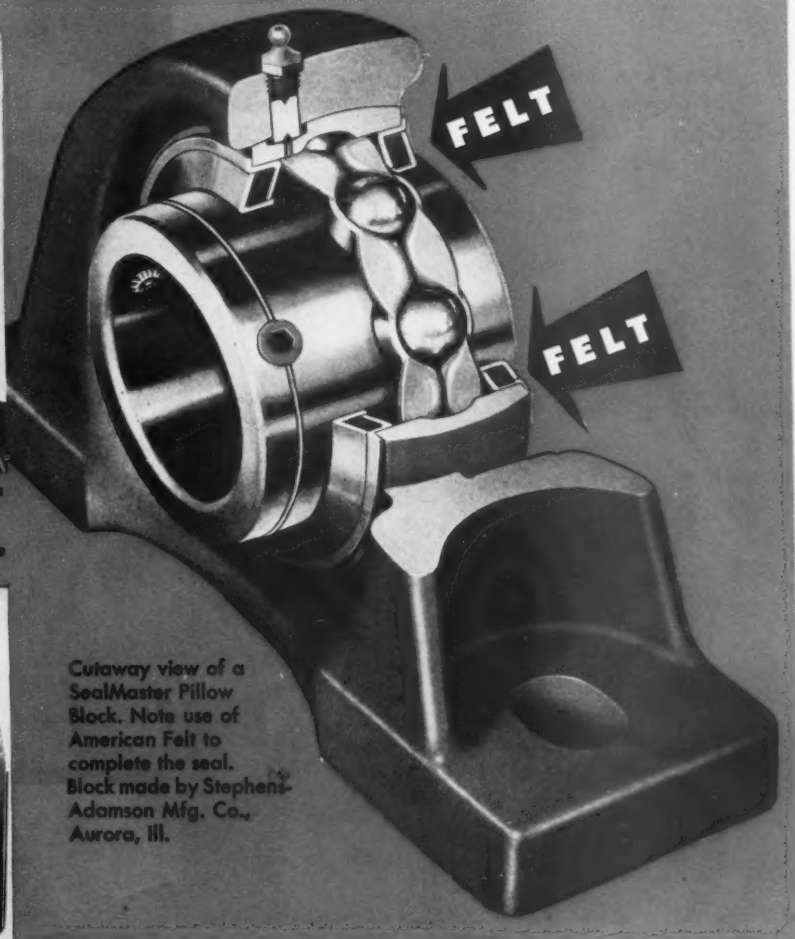
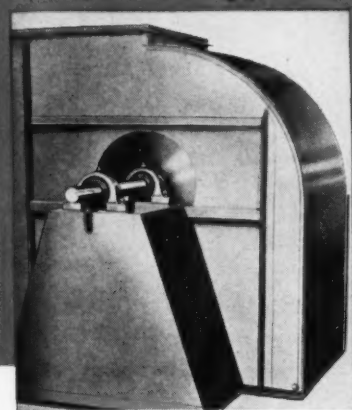
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Serving home and industry
AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA IRON



Circles show SealMaster pillow blocks in a textile machine, a worsted despocter.

SealMaster pillow blocks on shaft of large fan for air-conditioning systems.



Cutaway view of a SealMaster Pillow Block. Note use of American Felt to complete the seal. Block made by Stephens-Adamson Mfg. Co., Aurora, Ill.

Let's LOOK INTO the Use of FELT by SEALMASTER

● Here is an exceptionally interesting example of the use of American Felt in a bearing seal. Note that the seal consists of an inner labyrinth ring pressed into the outer race of the bearing, an outer flinger ring pressed onto the inner race of the bearing, and a ring of felt in the channel between the two. The felt rotates with the outer ring, and as it is assembled without pressure, there is no danger of glazing or wear.

Now let's see what happens in service. Due to the rotation of the outer steel ring and the felt ring, a centrifugal action is developed. Three effects result from this action in combination with the design of the labyrinth: 1, entry of dirt into the seal is prevented; 2, excess grease that may work its way past the vortex or trap created by the steel seal ring on the outer race passes slowly through the felt; 3, the felt is kept clean and free from glazing. When rotation stops there are still the same barriers, except the centrifugal. No wonder these pillow blocks run for years with such protection!

● American provides various types of felt, plain or laminated with impervious materials, to meet the need for reliable seals. Write for authoritative Data Sheet No. 11, "Felt Seals, Their Design and Application", complete with illustrative samples.

American Felt Company

TRADE MARK

GENERAL OFFICES



GLENVILLE, CONN.

QUICK DELIVERY Stocks of American Felt are maintained in San Francisco, Los Angeles, Portland and Seattle, for the convenience of Pacific Coast customers. For quotations, Samples and Data Sheets fill in coupon below.

A. B. BOYD CO. 1235 Howard St., San Francisco 3, Calif.

Please send Data Sheet No. 11.

NAME _____

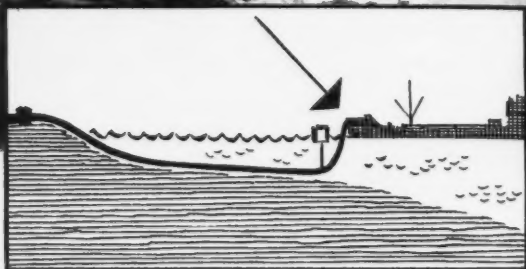
COMPANY _____

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This Victor Submarine Hose was fabricated in eight 25' lengths—12" in diameter—at PIONEER'S Pittsburg, California factory.



COMIN' ASHORE...

Feed for 402,000 horses!

Pacific Gas and Electric's new 402,000 horsepower electric generating plant on California's Monterey Bay will consume 13,500 barrels of oil every 24 hours. Fuel oil for the hungry generators is supplied by tankers that discharge their cargo in the manner of a "seagoing service station" over a half-mile offshore, where the surf is rough and the waves run high.

To compensate for the oil tanker's rise and fall, a flexible submarine oil hose has been designed by PIONEER RUBBER MILLS Engineers. Impervious to both salt water and oil, flexible to instantly follow every whim of wind and tide, strong to withstand high-pressure pumping, the hose PIONEER delivered

is 200 feet long, 12 inches in diameter, and can unload tankers at the rate of 8000 barrels an hour.

While a majority of industry's rubber needs can be filled from PIONEER'S large stock of commercial rubber components, PIONEER RUBBER MILLS has specialized in solving unusual industrial rubber problems involving custom fabrication.

Call on your PIONEER RUBBER MILLS Distributor's on-the-job-know-how. It is backed by the research laboratories and manufacturing technicians of PIONEER RUBBER MILLS—leaders in Industrial Rubber Development since 1888.

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SEATTLE • TACOMA	Washington Belting & Rubber Co.
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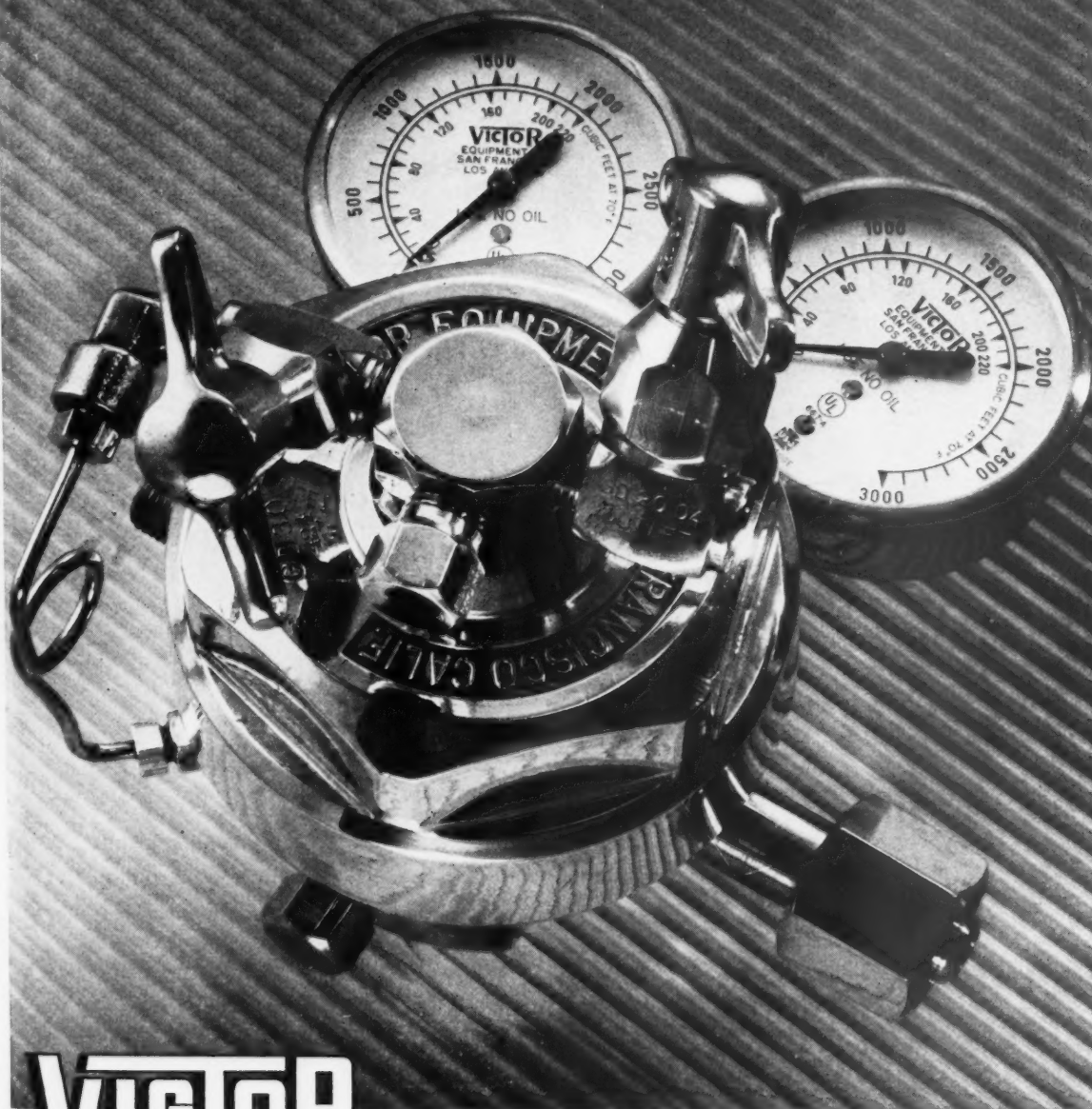
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BELTING • HOSE • PACKING • RUBBER COVERED ROLLS

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for every use and every gas...
to regulate pressures up to 5000 psi.



VICTOR

**Welding and Cutting Equipment
Since 1910**

Welding rod for all uses. Regulators for all gases up to 5000 psi. Machine and hand torches for welding, preheating, cutting, flame hardening and descaling. Portable flame cutting machines. Fluxes. Blasting Nozzles. Write today for free descriptive literature.

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There's a Branch or Distributor to serve you in Portland, Spokane, Seattle, Salt Lake City, Casper, Great Falls, Anchorage, Boise, Denver, Tucson, Phoenix, Albuquerque, Oakland, San Diego, Fresno, Ventura, Sacramento.



**It's the
use of the clubs
that's important**

Having a complete set of clubs is one thing. Knowing when and how to use them to best advantage is another. And that goes for railroading.

Union Pacific has the "clubs"; equipment, facilities and manpower. It also has the "know how" essential for the efficient handling of freight shipments.

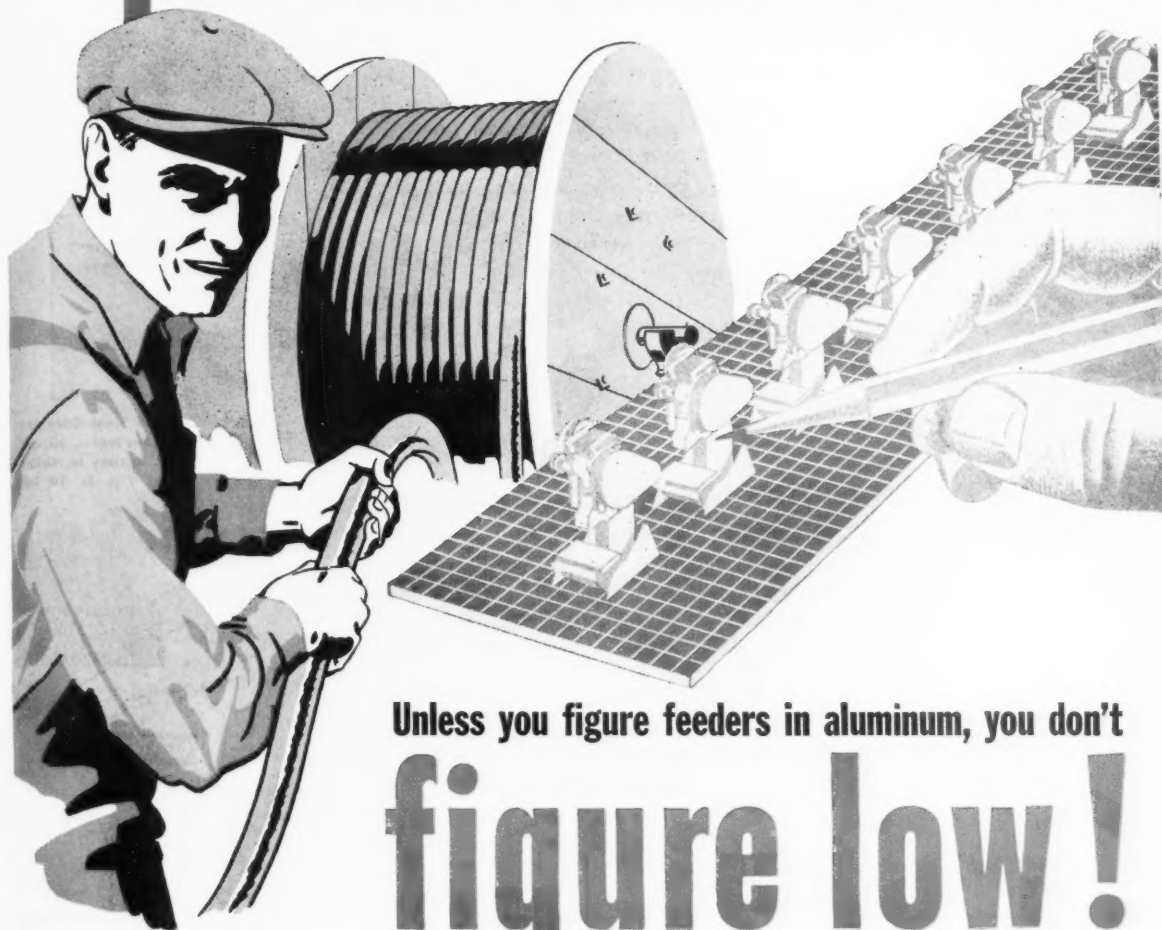
This is a statement we'd like to have you make us prove. The opportunity will be appreciated.



BE SPECIFIC: *Ship* UNION PACIFIC

new

production line?



Unless you figure feeders in aluminum, you don't

figure low!

Figure your feeders both ways—in *aluminum* as well as copper. Prove to yourself that insulated aluminum can give you equivalent current-carrying capacity yet cost substantially less.

Aluminum can go in faster, too, because its weight is much less than copper.

For names of manufacturers, and a copy of "Questions and Answers about Insulated Aluminum Conductors", call your nearby Alcoa sales office. Or write ALUMINUM COMPANY OF AMERICA, 1781H Gulf Building, Pittsburgh 19, Pennsylvania.



Aluminum Conductors

of ALCOA  ALUMINUM are made by leading manufacturers

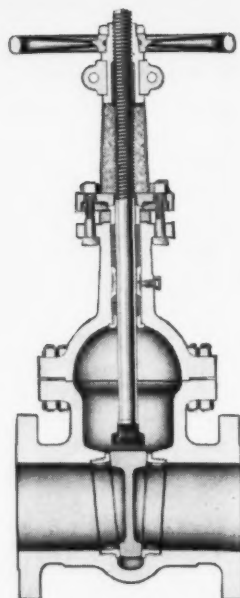
For completeness of selection You can't beat the CRANE line

STEEL VALVES FOR SEVERE STEAM SERVICES

Crane Cast Steel Wedge Gate Valves find wide application wherever exceptionally rugged and durable steel valves are required. Body and bonnet have heavy metal sections and ample reinforcements at points under greatest stress. Straight-through ports assure minimum turbulence, erosion, and resistance to flow.

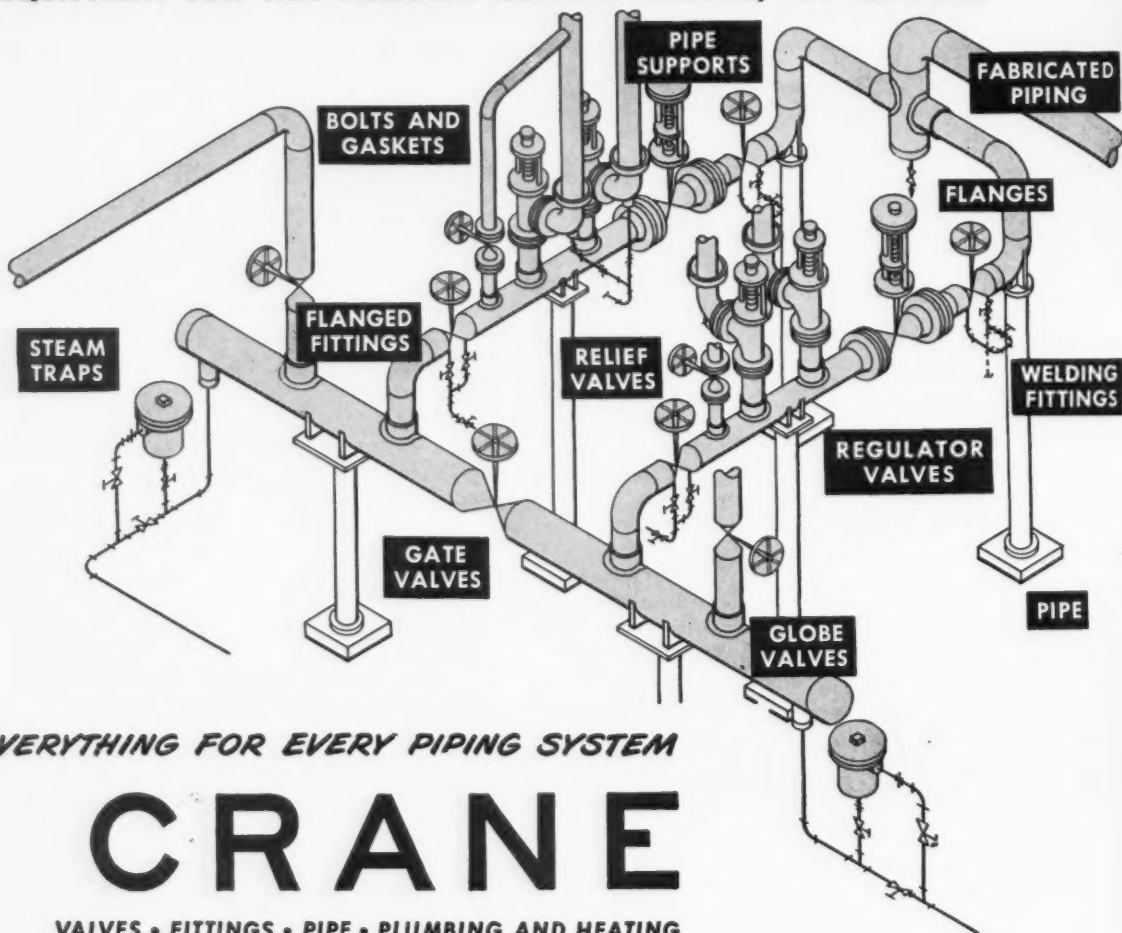
Solid wedge disc with close fitting disc guides maintains accurate seating on shoulder-type screwed-in body seat rings. "T-head" disc-stem connection prevents side strain on stem. Available in pressure classes from 150 to 1500 pounds with a variety of trim materials especially suited for recommended services. Screwed, flanged, or welding ends. See your new No. 49 Crane Catalog, p. 227.

CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving ALL Industrial Areas



No. 33XR, 300-Pound Steel Gate for steam up to 850° F.; for water, oil, air or gas up to 500° F. Exelloy to Nickel Alloy seating. Sizes: 1 1/2 to 24 in.

ONE ORDER TO CRANE COVERS ALL PIPING EQUIPMENT FOR THIS PRESSURE REDUCER STATION, FOR EXAMPLE



EVERYTHING FOR EVERY PIPING SYSTEM

CRANE

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

BIG JOBS . . .

TOUGH JOBS . . .

NATIONAL JOBS



• This Turbine Needle Valve is one example of scores of heavy manufacturing jobs National is equipped to handle. Your most complicated jobs are made easy by National's smooth, efficient handling of each operation. From melting furnace to final testing it's all

done in our fully integrated plant, the largest of its kind in the West.

The next time you have a "problem job" call us. In the meantime, write for our free booklet, "From Melting Furnace to Finished Product".



**THE NATIONAL
SUPPLY COMPANY**

THE NATIONAL SUPPLY COMPANY
Industrial Products Division
Torrance, California • Los Angeles Area
IDEAL PRESSED STEEL FORGINGS,
BILLETS AND LARGE BARS
STEEL CASTINGS AND SPECIAL MACHINERY

MELTING • FORGING • CASTING • MACHINING
HEAT TREATING • ASSEMBLING • WELDING • TESTING



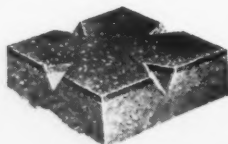
Blue Temper FEREM FLOORS

Tough Floors for Tough Conditions



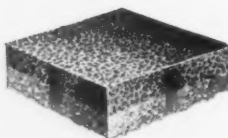
Cement

Notice the porous structure of the ordinary cement floor which is easily subject to crumbling by heavy traffic or shock loads as revealed by the grinding wheel test.



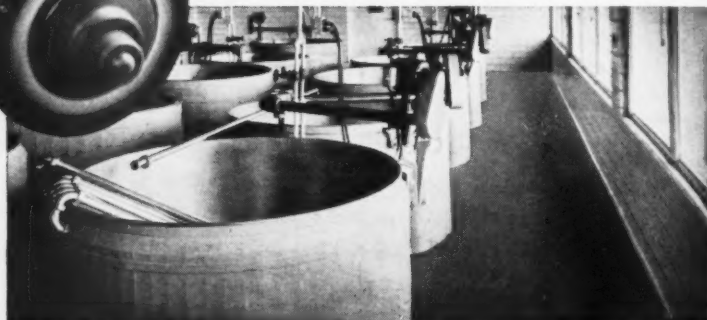
Metallic Hardener

In processed floors using metallic hardeners or metallic plating, the wearing surface is malleable but SLIPPERY and comparatively thin as the wheel test reveals.



Ferem "Blue Temper"

Ferem is the "Blue Temper" component. A dense, ductile and almost diamond hard floor surface results. NON-SLIP and highly wear resistant. The face of the test wheel polishes but does not cut.



20,000 lbs. of Ferem installed at the West Middleton Swiss Cheese Co.

A. C. HORN COMPANY, INC.

Manufacturers of materials for building maintenance and construction—established in 1897
10th Street & 44th Avenue, Long Island City 1, N. Y.
Los Angeles • San Francisco • Houston • Chicago • Toronto
SUBSIDIARY OF SUN CHEMICAL CORPORATION



GENTLEMEN:

Please send complete data on FEREM FLOORS.

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COMPANY _____

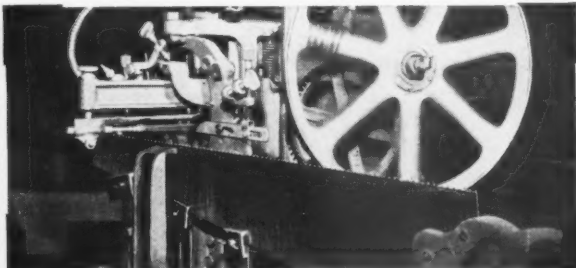
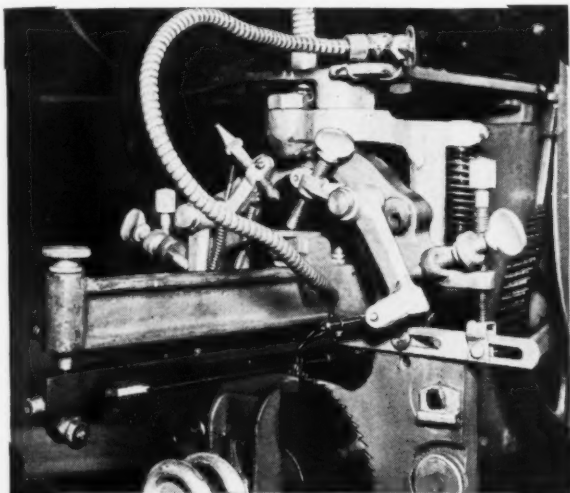
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CITY _____ STATE _____

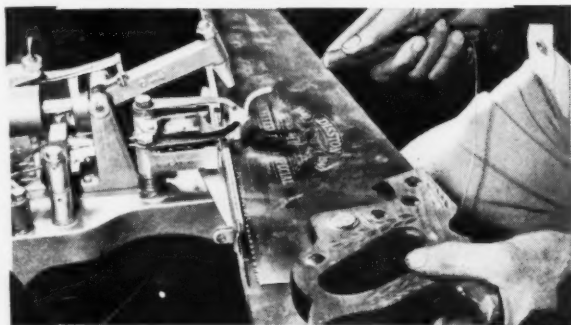
STANDARD ENGINEER'S REPORT

DATA	
LUBRICANT	<i>Calol Cutting Oil 33-DA</i>
TOOL	<i>Files-saw sharpening machine</i>
LUBRICATOR	<i>Circulating flow onto work</i>
SERVICE	<i>All types saws for contractors, printers, etc.</i>
CONDITIONS	<i>High temperatures and pressures-metal dust.</i>
FIRM	<i>H. Murray Co., San Francisco</i>

Special oil reduces cutting-tool costs 78%!



WHEN COMPOUNDED CALOL CUTTING OIL 33-DA replaced a comparable type competitive oil on this filing machine, the work output of each file was increased from 24 saws to 110 and "shut-down time" shortened materially. Circulated by a sump pump onto the tool and work, CALOL Cutting Oil 33-DA preserves the fine cutting edges of the three-cornered files used, keeps them cleaned of metal dust and completely cool. This machine sharpens printers' saws (left), handsaws (above) and band saws.



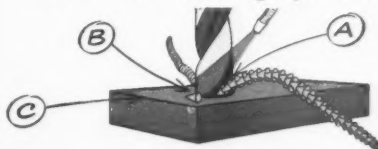
AN AUTOMATIC SAW-SET MACHINE is used in the shop. Saws are sharpened regularly under contracts with large building contractor concerns and others.

REMARKS: CALOL Cutting Oil 33-DA is only one of many cutting and soluble oils in the complete line made by Standard of California. There are 4 general types for all kinds of metal machining: Mineral oils, ready-mixed compounded oils, concentrates, and soluble oils.



TRADEMARK "CALOL" REG. U.S. PAT. OFF.

How to up efficiency in all metal-cutting operations

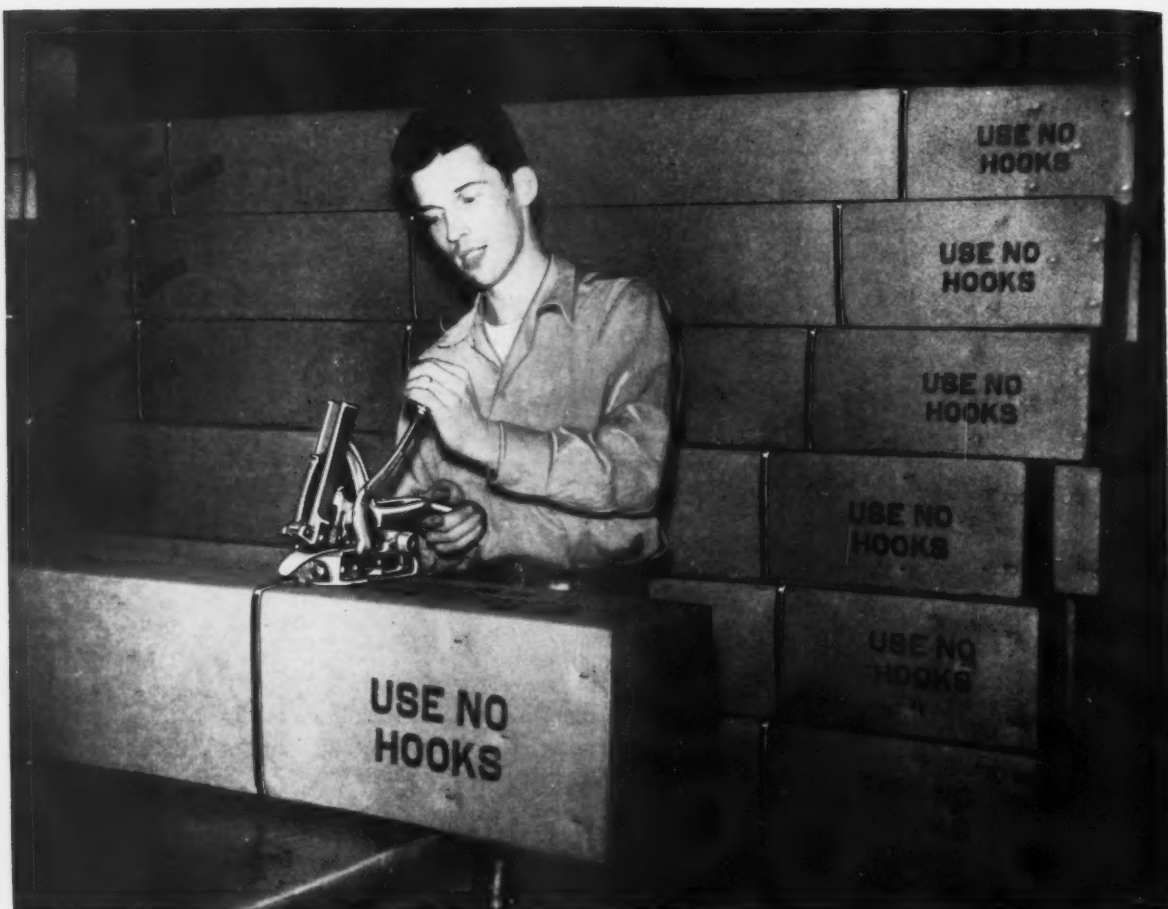


Use the correct CALOL Cutting Fluid for any operation from grinding to broaching. Recommendations for each are made from actual working results.

- Have high cooling and lubricating qualities—minimize "built-up edge" and promote good finish.
- Flush away cuttings readily.
- Protect machine and work against rusting and corrosion.

STANDARD TECHNICAL SERVICE checked this product performance. For expert help on lubrication or fuel problems, call your Standard Fuel and Lubricant Engineer or Representative; or write Standard Oil Company of California, 225 Bush St., San Francisco.

STANDARD OIL COMPANY OF CALIFORNIA



STEEL STRAPPING EQUIPMENT PAYS FOR ITSELF IN JUST 3 WEEKS -- for this Leather Manufacturer!

Here's more concrete *proof* for you that Stanley Steel Strapping can cut shipping costs of almost any type product. This leading leather manufacturer, trying to speed up his shipping operation and reduce expenses, called in a Stanley representative to make a personal survey. The situation called for a Stanley Ace Strapping Tool.

Result: the number of units packed and

strapped in a given time was doubled. The equipment paid for itself in just three weeks.

Stanley Steel Strapping is quick and easy to apply—saves man-hours and materials—gives greater protection to goods in transit. Let us show you the savings it can make in *your* shipping room. Write for details or for a representative to call now! The Stanley Works, Steel Strapping Div., 234 Lake St., New Britain, Conn.

Seattle Office: 618 2nd Avenue • San Francisco Office: 527 Folsom Street • Los Angeles Office: 108 W. 6th Street

STANLEY

Reg. U.S. Pat. Off.

STEEL STRAPPING
AND CAR BANDING SYSTEMS

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

Looking for a Needle



When "needles" are needed in industry, they must be located quickly. The Republic Supply Company of California has been called on to secure many critical products, for many services, in many phases of industry and has made fast friends and steady customers with just such a "plus" service.

Seventeen convenient, completely stocked stores, located throughout California, form a chain of service and supply second to none, first in hard-to-find items that can keep your production on schedule.

WE'LL FIND IT

Remember, the products you buy are no better than the Company that sells and services them, so rely on REPUBLIC for all your requirements in Piping—Tools—Wire rope—Rubber—Industrial supplies—and Machinery.

CALL **REPUBLIC**

THE REPUBLIC SUPPLY COMPANY OF CALIFORNIA
AN INDEPENDENTLY OWNED AND OPERATED COMPANY SERVING WESTERN INDUSTRY

Piping • Tools • Rubber • Wire Rope • Industrial Supplies • Machinery

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LONG BEACH	STOCKTON	SAN JOSE	VENTURA	GARDENA	AVENAL
FRESNO	SANTA MARIA	CUYAMA	NEWHALL	TAFT	

August, 1950—WESTERN INDUSTRY



How to tell time in the steel industry

According to the way most people figure time, Kaiser Steel is eight years old . . .

But if you compute its age in terms of the years its key plant personnel have spent in the steel industry, you'd come up with an average of 22 years.

By attracting young and aggressive operators with long steel experience . . . and by

applying new and progressive *ideas* . . . Kaiser Steel has consistently maintained an outstanding production record of highest quality steel.

Another reason why the West's only integrated *independent* steel plant is bringing more industry, more jobs, more wealth to the West!

It's good business to do business with

 **Kaiser Steel**
built to serve the West

PROMPT, DEPENDABLE DELIVERY AT COMPETITIVE PRICES • plates • continuous weld pipe • electric weld pipe • hot rolled strip • hot rolled sheet • alloy bars • carbon bars • structural shapes • cold rolled strip • cold rolled sheet • special bar sections • semi-finished steels • pig iron • coke oven by-products
For details and specifications, write: **KAISER STEEL CORPORATION, LOS ANGELES, OAKLAND, SEATTLE, PORTLAND, HOUSTON, TULSA, NEW YORK**

Lube Card System

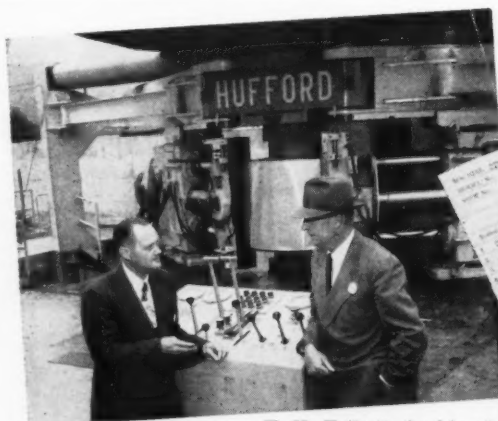
at Lockheed

Simplifies Maintenance, Speeds Production

The lubrication program in a large aircraft plant is extensive and complicated. Highly specialized equipment must be kept running at peak efficiency, breakdowns are expensive so a fool proof preventive maintenance program is essential to efficient production.

At Lockheed Aircraft Corporation, General Petroleum lubrication service has helped establish such a program. A recent innovation was the setting up of a lube card system that simplifies procedures and assures better maintenance. Plasticized cards fixed to each piece of equipment tell oilers the exact what, where and how of day-to-day lubrication for each particular unit. Monthly reservoir checks are simplified by card files with color indicators that assure an orderly service sequence, and most efficient use of the products involved.

General Petroleum conducts periodic lubrication surveys to simplify procedures and keep inventory requirements to a minimum. G. P. personnel get out on the job to trouble shoot and keep current on requirements. That such service pays off is demonstrated by the excellent maintenance record established at Lockheed during the past ten years.



T. K. Talbott, Lockheed Maintenance Foreman, and Staff Sadler, G. P. Lube-Engineer, discuss lubrication of Lockheed's new 200 ton Hufford Stretch Press.

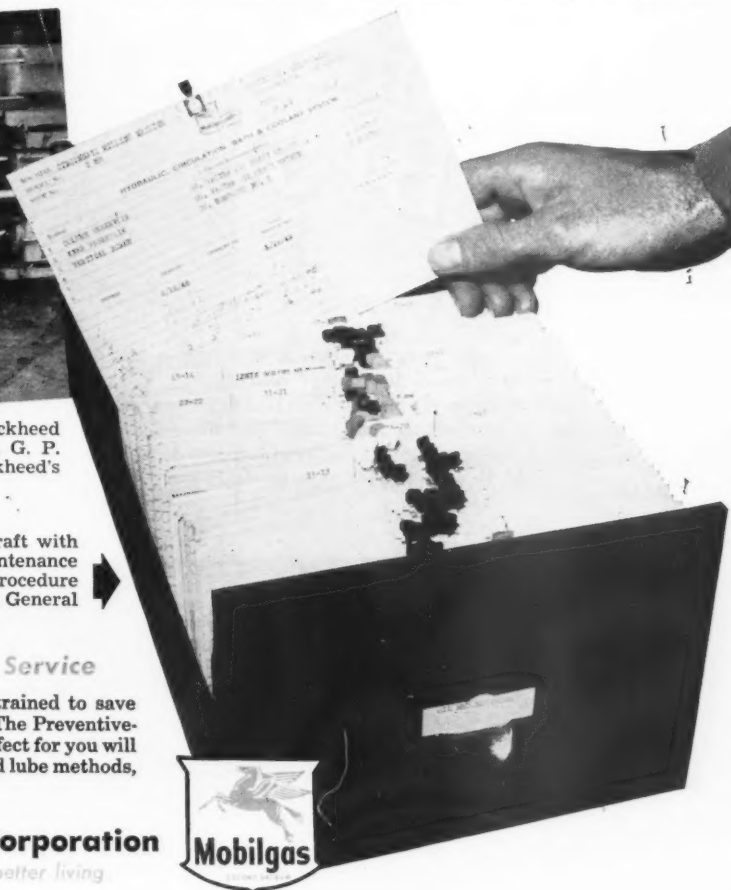
Oil Record Card file at Lockheed Aircraft with colored reminder tabs. Provides maintenance personnel with a simple, fool proof procedure for reservoir changes. This is a part of General Petroleum over-all lubrication service.

Take Advantage of this G. P. Service

The G. P. Lube-Engineer is an expert trained to save you money through proper lubrication. The Preventive-Maintenance program he will put into effect for you will result in longer machinery life, simplified lube methods, less buying and stocking problems.

General Petroleum Corporation

converting nature's gift to better living



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comes up in your firm**



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Call In Your Insurance Agent or Broker...

Your insurance agent or broker is only "dialing distance" from your elbow. He's ready, willing, and qualified to help you plan the right kind of group insurance program for your organization. Take advantage of his knowledge and experience in an increasingly technical field. Call him into the picture today!

Group insurance builds morale, helps establish financial security, and makes for greater efficiency among employees. Your insurance agent or broker can give you information on the modern group insurance plans underwritten by the sponsor of this message —

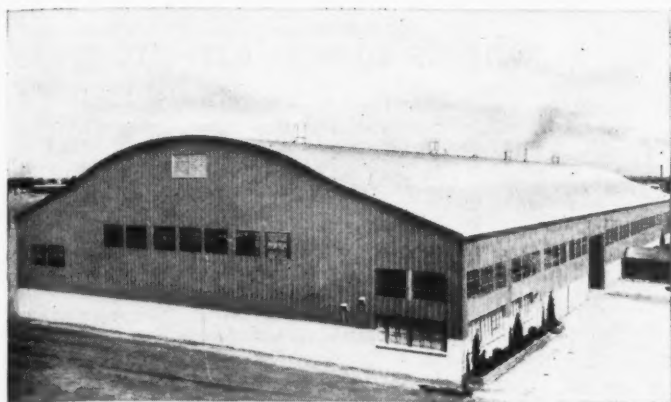


CALIFORNIA-WESTERN STATES LIFE INSURANCE COMPANY

Home Office, Sacramento



Made in the West for the West...



This 100' wide Butler Building is specially adapted for use as a steel warehouse in Spokane, Wash.



Butler Building used by paper company in Long Beach, Calif. Note full usable space, allowing efficient, economical storage of materials.

Butler Steel Buildings

**Low Cost
Permanent
Adaptable to Every
Industrial Need**

Fire-safe, weathertight, *permanent* Butler Buildings are quickly erected in days instead of weeks. Straight sidewalls and clearspan construction mean full usable space at lower cost per square foot. For complete sales and erection service, see your Butler dealer.



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or Tear Off and Mail
This Coupon TODAY**

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For Prompt Reply, Address Dept. W128, Richmond, Calif.

☐ Please send name of my local Butler Dealer.

☐ Send full information about Butler Buildings for use as _____

Firm _____

Name _____

Address _____

City _____ Zone _____ State _____



wheels of western progress

GEARS

herringbone gears...universally considered the best type of gear for smooth transmission of power between two parallel shafts. Gears for this service—and every other known type of gear as well—are manufactured in our extensive west-coast facilities.

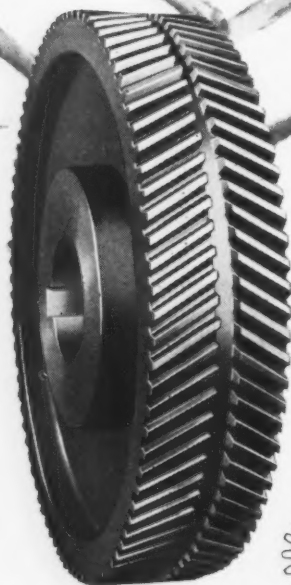
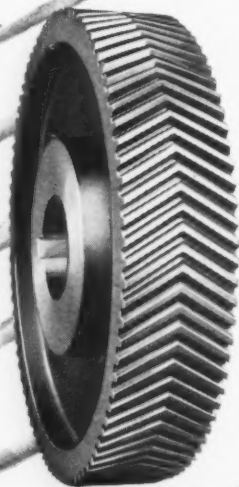
continuous tooth or center groove?

The continuous-tooth herringbone pattern permits smaller diameters for the same stiffness factor; also narrower faces and therefore greater economy, considering uniform design parameters. The center-groove herringbone gear permits finishing the teeth by shaving, resulting in increased accuracy and improved tooth finish for smooth operation at high speeds.

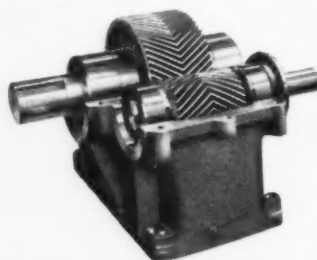
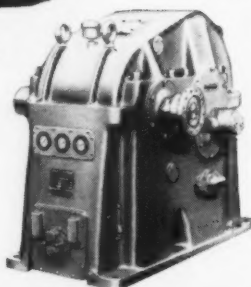
sample application

Continuous-tooth herringbone gears are used in this industrial speed reducer (right). Center-groove herringbone gears are used in this high-speed unit (left). Both units are typical Pacific-Western products—properly designed...the right gearing for the application.

continuous tooth herringbone gear



center-groove herringbone gear



in the West, it's Pacific-Western Gear Products

For help in any question of mechanical-power transmission, be sure to consult a specialist in the design, production, and application of gears and geared products—your Pacific-Western engineer.



WESTERN GEAR WORKS

Manufacturers of **PACIFIC-WESTERN** Gear Products

Pacific Gear & Tool Works

Plants at:
Seattle
San Francisco
Lynwood
(Los Angeles County)
Representatives:
Portland
Denver
Houston

IN OUR MAILBOX

Always the Way

Editor, *Western Industry*:

I was pleased to read in *Western Industry* the survey of management practices in the Western area. I have been out of town and have only now been able to study the articles. You are doing a fine service for Western management in making the survey results available.

I was particularly interested in the April issue dealing with organization charts, communications and functions. It is my opinion, based upon a study of many cases involving breakdowns in good human relations, that fuzzy thinking on delegation of responsibility and authority and poor communication are two of the chief contributory causes to those breakdowns.

CLYDE S. COOK,
San Mateo, California.

Good Idea

Editor, *Western Industry*:

The editorial entitled, "Corn vs. Facts," which was published in the March issue of your publication was very interesting to us, and we believe that it would also be of interest to the members of our association. For this reason, we would like to obtain your permission to reprint it in a forthcoming issue of *Construction Equipment News*. *Western Industry* would, of course, be given an appropriate credit line.

We are looking forward to hearing from you, and will appreciate your cooperation in this matter.

E. C. RICHARDS, JR.
Executive Secretary
Associated Equipment Distributors
Chicago, Illinois.

Constructive

Editor, *Western Industry*:

I have been through your January issue (Review and Forecast Number), and you are certainly doing a constructive job. I have no real suggestion for improvement, but I did enjoy going through it immensely.

CARROL M. SHANKS, President
The Prudential Insurance Company
of America, Newark, N. J.

Educational

Editor, *Western Industry*:

It would certainly appear that your magazine is filling a need in the Western area which is very well received.

GEORGE B. McMEANS,
Works Manager,
Kaiser Steel Corporation.

Informative

Editor, *Western Industry*:

We want to congratulate you on the excellence of content and rich value of information which your Annual Review & Forecast Number contains.

GEO. S. ARMSTRONG, President,
George S. Armstrong & Co., Inc.
Industrial Engineers and
Management Consultants,
New York City, N. Y.

EDITORIAL COMMENT

Later Than We Think But Not too Late

YOU can't very well blame the Idaho State Chamber of Commerce for sounding a warning that it is "later than we think" as far as proposals to divert water from the Snake and Columbia rivers to California are concerned.

Speakers at the chamber's recent annual meeting stressed the fact that the U. S. Bureau of Reclamation has set up a division at Salt Lake City under the imposing title of "United Western Investigation" and that Kenneth G. Tower, formerly of the U. S. Army Engineers office in Portland, who had been named as chief of the power division of the "U.W.I." is quoted in the Portland *Oregonian* as saying that diversion of water from tributaries of the Columbia near their headwaters into the Colorado will be one of the projects surveyed, also "other more direct means" of diverting water from the Columbia to Los Angeles.

If things drift along in this manner, with the Reclamation Bureau doing all the planning and building up the idea of a super-grandiose project that will solve all of the West's water problems, we may see the whole West split wider apart over something of this kind than Arizona and Southern California are at present over the division of waters of the lower Colorado. Sooner or later we will have to wake up to the fact that both the Reclamation Bureau and the Army Engineers are not free from self-interest in many of their projects, and that many of their "benefits" for the West are in part sales campaigns to make "bigger and better bureaus." Consequently it is time for all the people of the West to begin some studies of their own of the overall water situation.

One indication that these studies have started is the report submitted to the President's Water Resources Policy Commission by Stanford University Food Research Institute (not the Stanford Research Institute that has been grabbing so much publicity), saying there is no longer social or economic justification for federal irrigation subsidies and urging that the nation's spending emphasis be directed toward industrial, domestic and recreational water supplies for a 20 to 30 million national population growth by 1980.

"If irrigation to expand production in the West should be given priority," says this report, "the transfer of population westward would have to stop far short of what it otherwise would be." The Institute further says that western climate is attractive in its sun and dryness for living and for work, and that the water-excess eastern half of the country should provide future farm production increases.

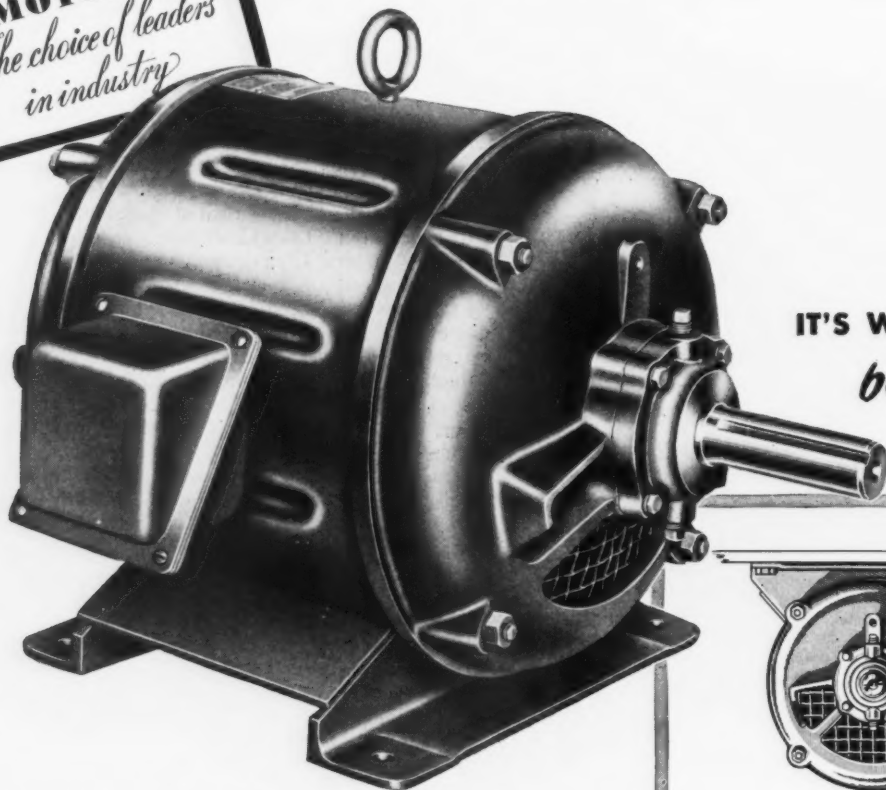
It is encouraging also that the Western States Council has decided to pick up this hot potato at its annual meeting in Reno in October. It is hoped that it will be tossed around from hand to hand until it cools off sufficiently for everyone to take a careful look at it.

The Morning Calm

WHICH was "The Land of the Morning Calm" just before June 25? Was it Korea, or the United States? Do we realize even now that we must always "look West"?

WESTERN INDUSTRY was established in January, 1938, as the successor to *Western Industrial Guide*. Subsequently, it was published as *Pacific Coast Industrial Buyers Guide* and, later, as *Pacific Machinery Guide*. In October, 1940, *Pacific Machinery Guide* was consolidated with *Western Industry*, and both were published under the latter title. In early 1940 *Pacific Mill, Mine & Factory* was established and, in October of that year, was consolidated with *Western Industry*. All rights to the above titles are reserved.

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MOTORS**
*...The choice of leaders
in industry*



IT'S WAGNER
because:

Wagner Steel-Frame Motors proved by years of service!

Wagner steel-frame drip-proof polyphase motors have been proved—durable, dependable, and trouble-free—by twenty years of hard usage in industry after industry.

These open-type squirrel-cage motors are available through 326 frame size, with either sleeve or ball bearings. The motor frames are formed of heavy rolled steel, shaped to accurately center the stator core and to provide passages for adequate ventilation. A large auxiliary fan draws in air through the openings in the front endplate, forces it through these passages and out through the endplate openings on the drive end. Heat is effectively carried off from all parts of the motor. Because of the fact that there are no openings in the frame, these motors are completely drip-proof when mounted in the normal horizontal position, and by rotating the endplates are still drip-proof in the sidewall or ceiling horizontal positions.

Bulletins give full information on the complete line of Wagner Motors. Thirty-one branches, located in principal cities, are ready to assist you whenever you have a motor problem. In addition, almost 500 authorized motor repair shops provide speedy, nationwide service facilities.

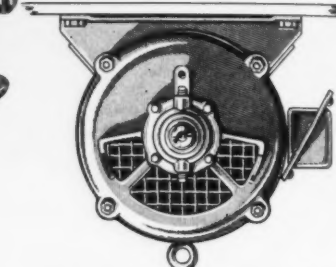


Diagram showing endplates rotated 180° for drip-proof installation on ceiling.

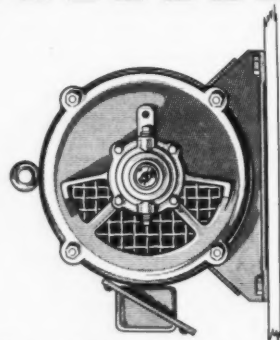
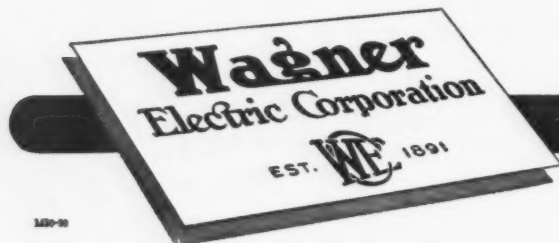


Diagram showing 90° rotation of endplates for drip-proof horizontal mounted sidewall installation.



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AUTOMOTIVE BRAKE SYSTEMS — AIR AND HYDRAULIC

BRANCHES IN 31 PRINCIPAL CITIES

CALENDAR OF MEETINGS

- Aug. 16-18—Western Packaging and Materials Handling Exposition, Civic Auditorium, San Francisco. Contact E. H. Heimer, 769 Monadnock Bldg., San Francisco.
- Aug. 19-20—Statewide Air Freight Clinic. Hotel Claremont, Berkeley. Contact Aviation Committee, Oakland Chamber of Commerce.
- August 28-31—Metal Mining Convention and Exposition at Salt Lake City. Contact Roy A. Hardy, Getchell Mine, Inc., Reno, Nevada.
- Sept. 4-9—University of California Management Conference, at Asilomar, Calif. Contact Ronald W. Haughton, Institute of Industrial Relations, University of California, Berkeley 4.
- Sept. 10-13—Northwestern Section of International Association of Electrical Inspectors, at New Washington Hotel, Seattle. Contact W. L. Gaffney, Secretary, 402 City Hall, Tacoma 2, Washington.
- Sept. 13-15—Pacific Electronic Exhibit (sixth annual) at Long Beach Municipal Auditorium. IRE coast convention concurrently.
- Sept. 18—Northwest Industrial Research Conference, at Portland, Ore. Sponsored by Raw Materials Survey and the Industrial Department of Portland Chamber of Commerce.
- Sept. 26-28—American Oil Chemists Society, at San Francisco. Contact Dr. E. B. Kester, Research Lab., U. S. Dept. of Agriculture, 800 Buchanan St., Albany, Calif.
- Sept. 28-31—American Mining Congress—Metal Mining—at Salt Lake City, Utah.
- Oct. 4-7—American Association of Port Authorities, at San Francisco. Contact Arthur Abel, Pres., Port of Oakland, California.
- Oct. 16-17—Western States Council, annual meeting, Reno. Contact Gus P. Backman, president, care Salt Lake City Chamber of Commerce.
- Oct. 16-18—National Defense Transportation Association, at San Francisco. Contact James A. Sullivan, Public Information Division, Ft. Mason, San Francisco, Calif.
- Oct. 16-20—International Air Transport Association, at San Francisco. Contact Rudolph Feick, Secretary, 11 Broadway, New York.
- October 17-19—24th Pacific Coast Management Conference at Hotel Claremont, Berkeley, California. Sponsored by California Personnel Management Association.
- Oct. 19-20—American Ceramic Society, at San Francisco. Contact Dr. J. A. Robertson, Westvaco Chlorine Products Corp., Box 1061, Newark, California.
- October 23-25—Pacific Logging Congress, at Multnomah Hotel, Portland, Ore. Contact Carwin A. Woolley, AT. 7971, Terminal Sales Building, Portland.



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BLUE-POINT

1/4" 5/16" 3/8"
1/2" 5/8" 3/4"

and 7/8" capacity

Electric Drills

powerful! cool running! light weight!

15 MODELS . . . A TYPE AND SIZE FOR EVERY JOB

Whatever your drilling requirements — occasional small jobs — general intermittent operations or continuous heavy work — Snap-on can furnish the best drill to fit your purpose. Superior features include heavier and more powerful motors than many competitive tools of similar chuck capacity . . . extremely efficient cooling . . . helical gears throughout . . . all ball bearing construction permanently lubricated and sealed from dust and grit . . . heavy duty Jacobs chucks . . . extra long (15 feet) heavy 3-conductor cable treated to withstand oil, grease and wear. Shipments made promptly from Snap-on branch offices located in 41 key industrial cities . . . write for complete catalog.

Blue-Point general purpose, straight shank, high speed drills available in fractional sizes from 1/16" to 1/2"; Wire Gauge Drills from No. 1 to No. 80.

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CORPORATION**

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BARS • PLATES • FLOOR PLATE
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STAINLESS
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MACHINERY

● Customers tell us that "Quick delivery" and "United States Steel Supply Company" mean the same thing to them. When emergency repairs had to be made or a deadline had to be met, they tested our service and found our "quick delivery" usually surpassed their most exacting demands. And in regard to ordinary deliveries, many customers, in a recent survey, wrote "I like your promptness."

"Service Plus" promises you more than speed, however. It is our reminder that we maintain a complete range of steel products, that requests for special products receive special attention, that every order, large or small, gets fast action from experienced personnel, and that you receive courteous, as well as prompt treatment—always.

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**Service
Plus!**

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UNITED STATES STEEL

THE WESTERN OUTLOOK . . . News · Statistics

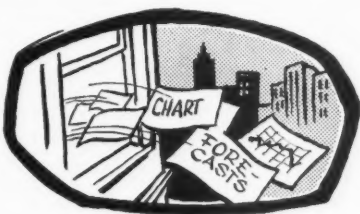
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Korean war may propel industry in the West forward again; Texas bids for Northwest gas market; Oil is no longer soggy; Steel customers build up inventories; Housing boom is door people's heyday.

OBVIOUSLY, all earlier forecasts as to the immediate future of the West's economy are out the window as a result of the Korean episode. Somnolent shipyards are awakening, aircraft's economy will rev up, hordes of hungry machine shop operators are descending on Ordnance, Navy and Air Force with the assertion that they "can make anything," the food trades need no longer worry about surpluses, fuel industries can forget John L. Lewis, diesel locomotives, residuals and the encroachments of electric ranges, and so on down the line.

All this is to the good, at least in terms of immediate dollars, but there may be a corresponding slow-down imposed on that portion of the economy dependent upon the expansion of the West's housing and living facilities, manifest in paving, pipelines, plumbing, heating, furnishing and the like.

Another factor undetermined at this writing is whether war orders will be centered on the Pacific Coast as far as possible, in order to save delivery time



and transportation charges. It is not easy to imagine Detroit, Chicago, Cleveland and Pittsburgh letting business get away from them, yet the new unified purchasing programs of the military establishment may favor the West. (See map in first article, main editorial section.)

The Western economy already had been showing signs of renewed activity. For example, the Industrial Plant

Location Committee of the California Chamber of Commerce reports substantial increase in inquiries for industrial plant sites and a rise in capital investment to above last year's levels. L. A. County Chamber of Commerce reports 53 new industries and 185 expansions for the year through May, totaling capital investment of \$26,743,250. San Francisco Chamber, for northern California, 66 new plants and 137 expansions, total investment \$24,787,470. California civilian employment in May highest of any May recorded, including the war years. Coast manufacturing employment 20,000 above a year ago, but Oregon was down slightly and Washington 5,000 under a year ago.

FREIGHT

Cars of revenue freight, railroad carriers in 11 Western States

Compiled from Assn. of Am. R. R. weekly reports

	Carloadings		Received from Eastern Connections	
	1949	1950	1949	1950*
May	515,618	492,031	280,065	292,834

TRUCK TRAFFIC

(Number of commercial trucks entering state through border checking stations)

	CALIFORNIA		ARIZONA	
	1949	1950	1949	1950
May	14,741	18,800	21,182	27,868

BANK LOANS

Industrial, commercial and agricultural (In millions of dollars)

From weekly reporting member banks of Federal Reserve System in 7 Western cities: L.A., S.F., Portland, Seattle, Tacoma, Spokane and Salt Lake. (Average of Wednesday reports)

May, 1949	2,033
May, 1950	1,896

BANK DEPOSITS

(In millions of dollars—adjusted)

Average of daily figures. All member banks in the 12th Fed. Res. District. Demand deposits, excluding U. S. Government deposits, cash items in process of collection, and interbank deposits.

	May 1949	May 1950
Net Demand Deposits.....	8,366	8,709
Time Deposits	6,109	6,288

CONSUMERS' PRICE INDEX

From Bureau of Labor Statistics
100 = 5 yr. Avg. 1935-39

1950	Los Angeles	San Francisco	Portland	Seattle	Denver
Jan. 15.....	166.9	.....	173.8	.....	.....
Feb. 15.....	166.1	.....	.....	171.6	.....
Mar. 15.....	165.9	172.3	.....	.....	.....
Apr. 15.....	166.9	.....	174.8	.....	165.7
May 15.....	166.7	.....	.....	171.8	.....

Industrial Supplies	Change	Lumber and bldg. mat.	Change	Mch. equip. and supplies excl. elec.	Change
1,567	-13	1,893	+15	331	-7
1,797	-9	1,733	+27	397	0
2,397	+9	2,371	+19	682	+8
2,272	+16	1,602	+21	716	+1
542	+19	1,707	+47	534	-18

Business Activity Indices

	March	April	May
¹ Arizona	337.7p	.....	.....
² California	223.0	226.5p	229.3p
³ So. California	278.3	286.6	292.4
⁴ Pacific N.W.	220.5p	231.0p	.....
⁵ Puget Sound	214.8	225.3	.....
⁶ Inland Empire....	200.2	250.0	.....
⁷ Lower Columbia	237.7p	227.9p	.....

1. Valley National Bank (Phoenix) index, based on a weighted composite of retail sales, agricultural income, and employment in mining, manufacturing and construction, seasonally adjusted. 1940 = 100.
2. Wells Fargo Bank & Union Trust Co. index based on the following components: Industrial production, freight carloadings, bank debits, department store sales (weighted 4, 3, 2, 1, respectively, and adjusted seasonally).
3. Security-First National Bank of Los Angeles index, based on the following components and weights, and adjusted seasonally: department store sales, 15; building permits, 5; Los Angeles bank debits, 20; residential city bank debits, 5; agricultural city bank debits, 5; industrial employment, 20; industrial power sales, 13; railroad freight volume, 6; telephones in use, 7; real estate activity, 4.
4. Index compiled by Bureau of Business Research, University of Washington. Basis of compilation not indicated.
- p. Preliminary estimate.

MANUFACTURING EMPLOYMENT

Estimated Number of Employees

Source: U. S. Bureau of Labor Statistics and State Agencies

	Apr. 1949	Apr. 1950	May 1949	May 1950
Washington	173.4	163.2	174.6	169.4
Oregon	124.0	120.9	129.1	128.7
California	701.3	712.7	697.0	723.4
TOTAL PACIFIC	998.7	996.8	1,000.7	1,021.5
Montana	16.3	17.4	17.2	17.9
Idaho	18.0	16.3	20.1	17.9
Wyoming	5.6	5.3	5.8	5.4
Colorado	52.5	53.4	52.8	53.4
New Mexico	10.3	11.3	10.9	11.6
Arizona	15.6	15.5	15.4	15.3
Utah	26.4	26.1	26.8	26.1
Nevada	2.9	3.0	2.9	3.0
TOTAL MOUNTAIN	147.6	148.3	151.9	150.6

WHOLESALESALES

In thousands of dollars. Percentage changes are from corresponding month of preceding year. From Bureau of the Census.

MOUNTAIN

1950	Automotive Supplies	Change	Electrical Goods	Change	Furn. and house furn.	Change	Groc. and foods exc. farm. prod.	Change	General Hardware	Change
January	805	+9	2,691	0	804	+30	.....	.....	966	-18
February	795	-7	3,131	+6	1,202	+49	.....	.....	1,360	+1
March	643	-23	3,671	-2	907	+20	.....	.....	2,138	+2
April	907	+10	3,288	-3	1,045	+43	.....	.....	1,998	-8
May	781	-6	4,050	+9	.....	.....	.....	.....	2,157	+14

PACIFIC

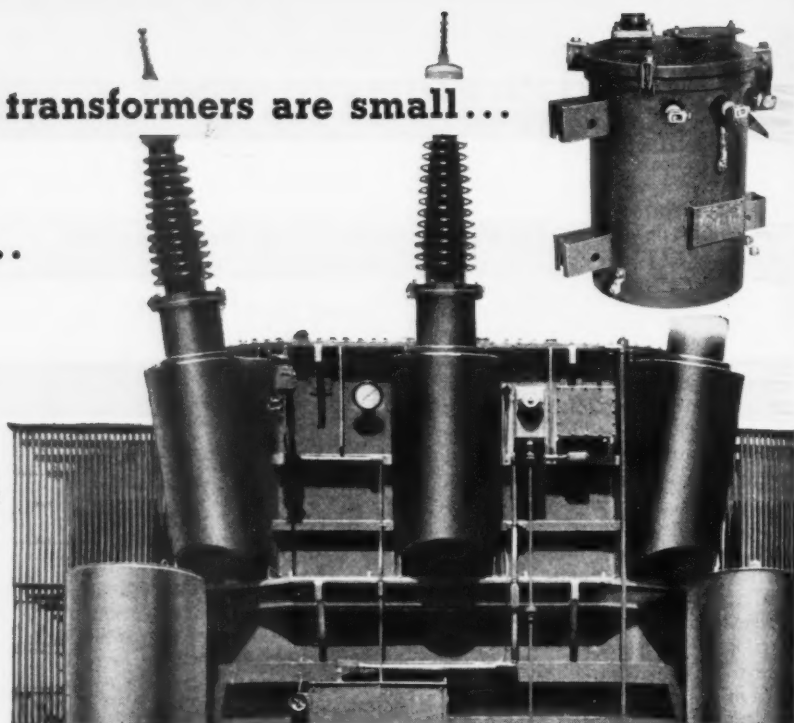
1950	Automotive Supplies	Change	Electrical Goods	Change	Furn. and house furn.	Change	Groc. and foods exc. farm. prod.	Change	General Hardware	Change
January	1,902	-9	10,943	-2	2,411	+19	.....	.....	5,345	-15
February	2,892	+5	12,276	+7	2,508	+15	.....	.....	5,775	-8
March	2,320	-2	14,254	+7	3,402	+27	7,371	-2
April	1,437	-13	13,120	+3	3,124	+25	6,659	-2
May	1,800	+9	14,510	+7	1,896	+39	7,953	+9

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or large...

old or new...

You'll save on
operating
costs with



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IT'S THE FAMOUS
50-YEAR
TRANSFORMER OIL

Four years ago Shell brought out Diala Oil AX, a new, inhibited transformer oil. Because of its performance in laboratory accelerated tests, it appeared to be the long-sought answer to *oxidation*—number-one enemy of transformer oils. (Oxidation causes sludge.)

In later full-scale tests, made in transformers overloaded beyond limits ever exceeded in actual operation, Shell Diala Oil AX resisted oxidation so effectively that its *service life* was reasoned to be *five or more times* the life of conventional oil under comparable conditions... even *50 years* or more in open, air-breathing transformers.

Now, four years later, evidence keeps coming in to show Diala Oil AX is performing as predicted...

IN ACTUAL USE—Under the most severe operating conditions, Shell Diala Oil AX after four years' service is still in "like new" condition. In the same installations, conventional oils deteriorated badly in half the time.

IN INDEPENDENT TESTS—Power companies have run accelerated tests on Shell Diala Oil AX in their

own equipment. Every single one of these independent tests confirms Shell's own findings.

Saves money—and then some!

Frequent oil changes, frequent purification, transformer overhauls, oil protection devices—all those expenses in transformer maintenance can be minimized when you use Shell Diala Oil AX. No matter what other kind of oil you're using in your transformers now—no matter if they're large or small, old or new—you'll save money by switching to Shell Diala Oil AX.



AND IT'S THE IDEAL
OIL FOR VOLTAGE
REGULATORS AND
OIL-FILLED BUSHINGS

Also recommended for circuit breakers
and oil-filled switches



Gas

A long, long forward pass into the Pacific Northwest from the Texas natural gas supply threatens to upset entirely the slow, steady ground game played by those desiring to serve the area with natural gas from the Canadian province of Alberta. The Pacific Northwest Pipelines Corp. asked the Federal Power Commission June 30 for authority to build a 2175-mile 26-inch natural gas line (the nation's longest) with an initial delivery capacity of 250 million cubic feet daily. Proposed to serve Salt Lake City, the Snake River area of Idaho, and the Portland, Spokane and Seattle regions, also the AEC plants at Arco, Idaho, and Hanford, Wash. Pacific Northwest said its line would link up Texas gas reserves with those of Alberta, but on the other hand, if Texas supply is adequate, the market for Alberta gas would be killed altogether, because Alberta and the Canadian prairies have too thin a population to support a gas line themselves.

Northwest Natural Gas Company, who have been working on the Alberta deal for a long time, have successfully cleared hurdles at Ottawa, obtained a Canadian federal charter, and are in the middle of hearings in the province of Alberta. Potential market for southern British Columbia, Washington and Oregon are summarized by Northwest as follows:

Domestic	19,052,000 million cubic feet
Commercial	5,735,000 " " "
Industrial	46,741,000 " " "
Company use	
and other	3,548,000 " " "
Total	75,076,000 " " "

Cost of Northwest's project is estimated at \$110,000,000, as compared with \$174,000,000 for the Texas line. Looks as though the Texas threat will force the Canadians to get off the dime, provided they can do it quick enough.

Peak day sendouts of most Pacific Coast gas companies reached new highs during the past winter. In the Northwest, Portland's peak day went to 68.6 million; Seattle's to 26.4 million; and Vancouver's to 15 million. In California, San Diego exceeded 50 million; the combined Southern California-Southern Counties system exceeded a billion by 56 million; and the P. G. & E. and Pacific Public Service systems in Northern California reached 931 million, just short of the record 980 billion in January, 1949.

Water heater division of Pacific Coast Gas Manufacturers Assn. reports water heater shipments first quarter of 1950 exceed 1949 by 88%. Pacific Coast gas appliance sales, excluding those for use with liquified petroleum gas, for 1948-1949, based on the sales



of the 10 largest Coast gas companies, are as follows:

	1948	1949
Gas Ranges	240,000	237,000
Automatic Water Heaters	285,000	283,000
Central Furnaces	29,000	38,000
Floor and Wall Furnaces	181,000	198,000
Direct Heaters	80,000	90,000

Oil

Vast improvement in the soggy picture the West's petroleum market recently presented is now evident. Stocks of heavy residual fuels, which at peak last year were above 40,000,000 barrels, are down to less than 18,000,000. This was accomplished by (1) heavy shipments at lower prices to the East Coast, and (2) shutting in of some 4,000 California wells.

Meanwhile demand for gasoline is picking up, especially on the East Coast. East-bound shipments are mounting and contrary to the general rule, are not resulting through dumping of overproduction by western refiners. Gasoline inventories on the Pacific Coast already are down from 24 million to 18 million barrels since February and soon may reach their lowest point in a decade.

This firmness comes at a time when the Justice Department has cracked down with civil suits against seven western major producers, with two aims: (1) to force the majors out of the retail field, and (2) to eliminate a voluntary trade arrangement for regulating the production of oil in the state. California is the only oil-producing state with no conservation law.

Meanwhile the U. S. Bureau of Mines has revised upwards its forecast of supply and demand, now estimating that the domestic U. S. demand in 1950 for all oils will be 7.1% higher than last year.

PETROLEUM

(California, Oregon, Washington, Arizona, Nevada)

(From Bureau of Mines)

(In Thousands of Barrels Daily)

	Apr. 1949	Apr. 1950
Crude Production	942	858
Gasoline	14	11
Gas, Oil and Diesel	120	142
Heavy Fuel Oil	370	274
ALL PRODUCTS	1,017	929

IRON AND STEEL

WESTERN AREA OF THE UNITED STATES
From American Iron and Steel Institute (in net tons)

	May 1949		May 1950	
	Output	Per Cent of Capacity	Output	Per Cent of Capacity
Pigiron Output	194,525	78.6	241,538	85.5
Steel Output	405,170	90.6	467,471	96.5
Alloy Steel Output	4,423	....	6,369	....
Carbon Ingots, Hot Topped*	9,690	....	7,935	....

* Included in total steel.

Coal

Bituminous coal production in the intermountain area was at a seasonal low of about 50 per cent of normal in June. The decline was increased by a railroad strike which closed a large part of the industry in Utah and Colorado. Miners will take their vacation from July 1 to 10, inclusive, and thereafter there will be a quick pickup to normal, assuming a settlement of the railroad strike.

BITUMINOUS COAL AND LIGNITE

(In thousands of tons—From Bureau of Mines)

	Apr. 1949	Apr. 1950
Colo.-New Mexico	375	290
Wyoming	300	407
Utah	520	676
Montana	171	156
Wash.-Alaska	104	112

Electric Energy

Demand in May from the Western areas ran about 10% above last year. Precipitation in central California about 90% of normal, northern California 95%, Arizona less than 50%.

ELECTRIC ENERGY

(Production for Public Use—in thousands of kilowatt hours.)

(Source: Federal Power Commission)

	Apr. 1949	Apr. 1950
Mountain	1,484,455	1,549,109
Pacific Northwest	1,763,924	1,925,407
California	1,806,046	1,929,905
TOTAL PACIFIC	5,054,425	5,404,421

Nonferrous Metals

Nonferrous metal production continued at a high level generally during June. Copper output held steady with prices and demand strong. Zinc production picked up in response to price increases and mines in New Mexico which have been closed for a year reopened. The trend in lead production was slightly downward because of a weakening price situation.

Steel

First effects of Korean war situation were to put all mill facilities in full operation and cause consumers to start building up inventories. As pipe and plates have been tight for a long time, stocking up has affected bars and structural shapes. Columbia put back into operation two 25-ton open hearth furnaces at Pittsburg, Calif., formerly operated for foundry purposes but discontinued two years ago. This will permit shipment of 4,000 tons of steel ingots monthly to the Geneva plant in Utah, where a new record of 92,000 net tons of steel products shipped

Continued on page 31

INDEX OF DEPARTMENT STORE SALES

(Index numbers, 1935-39 daily average = 100 with seasonal adjustment.)

Compiled by Federal Reserve Bank

	May 1949	May 1950
Total 12th Fed. Res. Dist.	341	337
Southern California	373	364
Northern California	305	303
Portland	322	321
Western Washington	358	367
Eastern Washington and northern Idaho	386	371
Utah and southern Idaho	321	314
Phoenix	429	432

SAFEGUARD

YOUR ENGINE

NEW TYDOL HEAVY DUTY COMPOUNDED

MOTOR OILS FOR GASOLINE,
DIESEL AND BUTANE ENGINES

New Tydol HD, HD S-1, HD S-2 solve every problem of modern lubrication for automotive and stationary engines using gasoline, butane or diesel fuels. Tydol Heavy Duty Motor Oils are made of high quality, high VI paraffinic base oil compounded with the new types of "additives." Tydol *cleans* as it *protects* as it *lubricates*.

TYDOL HD

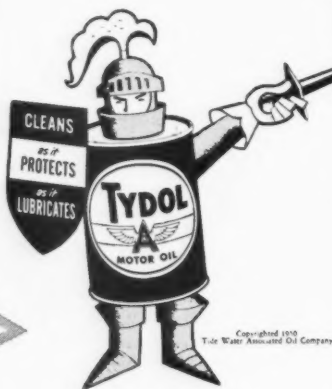
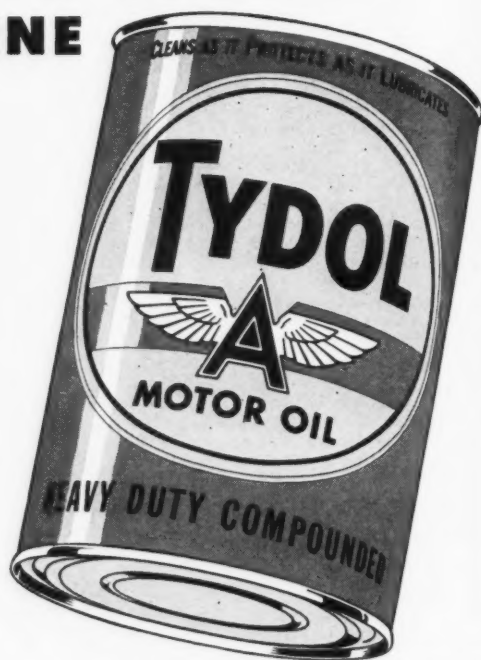
Especially recommended for high speed diesel, gasoline, butane fueled engines in automobiles, buses, trucks, tractors, stationary units under normal Heavy Duty conditions. SAE grades 10, 20, 30, 40, 50. Sold in drums and cans.

TYDOL HD S-1

Has higher detergency level than Tydol HD. For operation under cold start and stop conditions and under unusually severe continued overloaded conditions in all types of engines. SAE grades 20, 30, 40. Sold in drums.

TYDOL HD S-2

Has highest detergency level of the Tydol Heavy Duty series. For high performance and supercharged diesel engines using all kinds of diesel fuels under the most extreme conditions. Available in SAE grade 30. Sold in drums.



Call your Associated
Representative for expert help
on any lubrication problem.

Check these Tydol safeguards

- ✓ Easier starting—heat resistant—stable in service.
- ✓ Contains anti-foam agent and assures positive lubrication. Low oil consumption.
- ✓ Freedom from ring sticking—less piston ring and cylinder wear.
- ✓ Prevents sludge and varnish deposits and clogging of oil ducts and passages.
- ✓ Insures free acting valve stems. Provides cleaner filter elements.
- ✓ Non-corrosive to alloy bearings and other engine parts.
- ✓ Cleans as it protects as it lubricates.



TIDE WATER
ASSOCIATED
OIL COMPANY

Continued from page 29

had been set in June. Bethlehem Pacific Coast's facilities have been put back in full production and its shipyards have received contracts for de-mothballing three Victory ships, although this is mostly a labor job not requiring much in the way of materials. Fontana has been running full tilt and no change was experienced there.

Aluminum

Demand for aluminum continues strong, with prices firm and producers all running full blast even without any step-up from war orders. One especially strong spot this season has been aluminum irrigation pipe for portable sprinkler systems, which western farmers are using for pasture as well as row and field crops. This product, virtually unknown in 1945, has developed a demand running into the millions of pounds this year, with sales currently at twice last year's.

Chemicals

Deliveries in the United States of potash for the year ending May 1950 totaled 953,851 tons, a decrease of 6%. Deliveries in California of 60% muriate was 11,950 tons, and of sulphates 4,548.24 tons, for a total of 16,498.24 tons. California also took 3,403 tons of chemical potash salts. Decreases were due to the strike in the potash mines in the Carlsbad area from November 19, 1949, to February 1, 1950.

Aircraft

Congressional action strongly supporting a 70-group air force now makes it certain that, war or no war, activity is due to pick up in the industry during the forthcoming year.

Production thus should be at least 2800 military planes in fiscal 1950-51; 2300 the next year, and 3100 in each of the following years.

Ten major aircraft companies already have run up sales totals 26% higher than during the comparable first quarter of last year and their net profits have doubled.

Lockheed is in the midst of a \$5,000,000 modernization program which includes an 8,000-ton hydraulic press, largest of its kind in the world, to form the big 30x60-foot sheets of half-inch aluminum into wing surfaces. The move is in keeping with the trend away from assembly of airframes by riveting individual pieces, and toward mass production techniques like those of auto body production.

Northrop is embarking on research for the Air Force and National Advisory Committee for Aeronautics, using the X-4 experimental plane, a tiny swept-wing craft patterned



after the famous flying wing and destined not for supersonic speed but for exploring the high-velocity band just under the speed of sound. Power comes from two gas turbine engines which permit longer test flights at these speeds than was possible with rocket propelled research planes.

General Electric announces that seven other leading airplanes are using its turbo-jet engines, some of which give 50% more power for their weight than earlier models.

Apparel

Some brightening of the outlook for fall has apparel manufacturers feeling better but they refuse to get overly optimistic. Last year's sales figures still remind of need for continued caution. Advances in wools and strengthening tendencies in cottons, particularly denims, have raised production costs but manufacturers are trying to absorb

WEST COAST LUMBERMEN'S ASSOCIATION

	June Aver. Per Wk. 1950	1950 M Feet 26 Weeks	1949 M Feet 26 Weeks
Production	206,077	4,973,982	4,844,266
% 1945-1949 Yrs.	125.6%	116.6%	113.6%
Orders	212,197	5,651,099	4,726,456
Shipments	219,472	5,313,585	4,765,676

WESTERN PINE ASSOCIATION

(Comparative report, 106 identical mills, in thousands of board feet)

	Week Ending May 27 1950	Three Year Weekly Ave. for May	Total to Date 1950	1949
Orders	60,917	59,084	1,363,671	1,072,970
Shipments..	64,573	58,673	1,341,633	1,050,412
Production	67,413	56,392	1,025,082	943,080

	Week Ending June 17 1950	Three Year Weekly Ave. for June	Total to Date 1950	1949
Orders	71,488	66,540	1,699,266	1,368,307
Shipments..	73,276	68,138	1,670,583	1,341,027
Production	78,257	71,027	1,351,801	1,253,904

CALIFORNIA REDWOOD ASSOCIATION

	May 1950 All Species	May 1949 All Species
Production	48,019	40,318
Shipments	42,018	29,039
Orders Received..	47,437	28,618

AIR FREIGHT

(In pounds. Figures from airports)

	Los Angeles		San Francisco		Oakland		Portland		Seattle	
	In	Out	In	Out	In	Out	In	Out	In	Out
1949										
November	1,300,850	1,391,597	967,135	1,075,337	102,351	150,148				
December	1,511,280	1,495,057			126,828	155,506			483,843	792,960
1950										
January	1,139,500	1,064,212	855,863	929,761	210,615	158,460			392,850	621,221
February	1,027,146	1,086,299	814,706	1,179,674	107,182	158,467				
March	1,235,068	1,330,344	1,012,229	1,245,260	137,671	253,652				
April	1,142,800	1,326,717	920,288	1,258,831	122,080	208,185			522,339	1,102,309
May	1,250,339	1,579,975	1,219,400	1,325,760	109,456	254,611			487,571	1,114,512

them and keep prices stable. Buying season for fall has opened a bit earlier than usual but purchases are being geared carefully to the sales outlook and to individual buying position. No war hysteria or buyer's scare has yet developed.

Furniture

Retail sales generally are a trifle slower and inventories are enough to discourage reckless buying by the trade. Furniture makers, realizing that nearly 90% of new homes being built are for sale under GI financing and most of these are in the lowest price brackets, are concentrating on budget-type models. Several manufacturers who are prospering most have engaged top-notch designers to create designs that are simple, attractive enough not to become tiresome to the family, yet can be retailed for as little as \$1,000 for enough furniture to equip a two-bedroom home.

Lumber

Production is booming at very high levels in all departments and regions with logging and milling season at peak. Order files are filled months ahead and buyers are lining up to bid for what they can get. Prices are almost of runaway proportions with not much evidence of firming up, although the rate of rise shows signs of leveling off. Inventories are nowhere building up appreciably as the cut is moving out fast into consumption. The industry has not yet caught up with losses from last winter's shutdowns and other interruptions.

Housing is the main key to present boom, but cautious ones are carefully watching for any change in this national activity as a barometer. Important contributing factor in supply and demand situation is enforced idleness of several large lumber mills of Weyerhaeuser Timber Co., largest of the Western operators, by a strike over a fundamental issue on which neither labor nor management shows signs of making a con-

Continued on page 33

PULPWOOD

(Pacific Northwest)

(Cords of 128 cu. ft., roughwood basis. Source: Bureau of Census)

	Apr. 1949	Apr. 1950
Receipts	316,352	179,118
Consumption	255,563	301,655

CEMENT

(In thousands of bbls.)

From U. S. Bureau of Mines

	May 1949	May 1950
California	1,994	2,393
Oregon-Washington	652	707
Colo.-Wyo.-Mont., Utah-Idaho	589	737

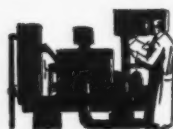
Announcing... **THE NEW** **T5X**

Fortified with new compounds that offer you greater engine protection than ever before!



76 **UNION OIL COMPANY** OF CALIFORNIA

Surpasses "Supplement 1" specifications



The amazing *purple* oil is now better than ever! With even greater alkaline reserve, oxidation resistance, detergency and other upgraded qualities, the *new* T5X surpasses the exacting standards of U. S. Army Specification 2-104B, Supplement 1.

Its superiority has been clearly established in both the Coordinating Research Council gasoline engine tests and the rugged "Caterpillar" Diesel tests.

Recommended for heavy-duty operations

Powerful *new* additives have been compounded with a high VI, pure 100% paraffin base to form this *new* T5X. And its improved quality is so



high that this great oil is recommended for *any* internal combustion engine operating under *severe* conditions.

Proved under critical field conditions



Field tests made by outside companies under critical operating conditions have *also* proved the amazing stability and performance of the *new* T5X in all types of equipment—including trucks, tractors, construction equipment, marine engines and varied types of stationary engines.

Substantially reduces engine wear

What the *new*, unusually high quality of T5X means to *you* is the opportunity for increased engine efficiency, less wear and lower maintenance and repair costs. And you can prove this for yourself by giving the *new* T5X a trial in your *own* equipment operating under *severe* conditions.



For full information about the *new* T5X, call your Union Oil Representative. Or write, wire or call Sales Dept., Union Oil Co., Los Angeles 17, Calif.

Continued from page 31

cession. Mills of this one company are the only ones currently affected by labor troubles. Explosive situation in Korea is causing some speculation of resumption of wartime controls on lumber which conceivably would follow the pattern established just prior to and during World War II which severely restricted civilian uses and this time might put sudden stop to housing.

Plywood and Doors

Entire industry is running at high capacity. Order files are full and price structure is strong and eminently favorable for the mills which are reliably reported to be making big profits under the combination of full production and strong price. However, there is much more seasoned behavior in marketing exhibited by plywood mills than lumber mills, generally. Plywood manufacturers were "burned" in the market collapse year or so ago and cooler heads are prevailing to prevent runaway market which would encourage the trade to turn to alternative building materials. There have been modest price advances recently, but only sufficient to cover recent wage increase. Peeler logs are hard to get and prices are firm, but today's manufacturing profits can easily absorb high log costs, it reliably reported.

Door factories are doing a terrific volume of business. This situation is directly traceable to the current housing boom. Factories



are reported five to six months behind on orders. Door factories require high grade clear shop lumber and are finding it increasingly hard to get; in order to keep stocked up they are willing to lower their specifications and do more cutting up in their own plants. Interesting "coals to Newcastle" item is the report that a shipload of lumber from the Humboldt Bay region in California was recently unloaded for a door and millwork plant in Southwestern Washington in the

Grays Harbor area which 20 years ago was loudly shouting to the world that its yearly lumber cut exceeded a billion board feet annually.

Flour

As the result of some increase in government buying, but more particularly due to the opening up of the Philippine market in June, grinds in coast mills have been good. The Philippine orders had to be shipped by the end of July. This market in recent years had been dominated by Canadian mills.

Canning and Packing

California cling peach production cut back 15% by a tree thinning program agreed upon between canners and growers to keep supply in line with demand. Stocks on hand June 1 total 2,000,000 cases, 1,000,000 less than a year ago; inventory considered normal. Fruit cocktail figures both years about same as peaches. Apricot pack likely around 4,000,000 cases, about double 1949 and slightly under 1948. Crop reported as 206,000 tons, against 165,000 tons in 1949. Stocks on hand 531,000 cases, about one-third of last year same time. Most northwest fruit crop very short except pears.

1950 Hawaiian canned pineapple pack 13,448,329 cases, plus carryover of 1,053,474 cases, making total stocks of 14,501,803 cases, of which 12,731,352 cases had been delivered to dealers before May 31, 1950. Pineapple juice pack 10,404,518 cases, making 11,000,171 cases total supply, of which 9,817,175 cases shipped by end of May.

Asparagus pack for California about same as last year, pack well sold out. Northwest peak may reach 6,000,000 cases, about same as 1948 and above 1949's 4,765,000-case pack. Pre-season carryover lowest since pre-war. Quick-freezers in short supply of several winter vegetables.

In canned salmon labor problems, which have been rather vexing, have mostly, but not entirely cleared. Delayed agreement on prices to fishermen for fish caused some loss of catch in early Copper River, Alaska, sector, but was not too serious as rough, poor fishing weather prevailed in non-agreement period. Bristol Bay packers were hit rather hard by refusal of longshoremen to load Alaska cannery supplies for a time. Southeastern Alaska packers have cannery labor agreements worked out but prices for fish not yet settled. False Pass run early reports on red salmon run were good but Bristol Bay was dim. Pink pack in Southeastern Alaska expected to run much less than last year's heavy pack. Price on canned pinks going up and 1950 pack will cost more to put in the can. On Puget Sound this is the

year for good run in four-year life cycle of sockeyes and prospects good. No change in trap situation in Alaska yet, but canners expect traps will be outlawed if and when Alaska granted statehood. There is already some sign of shifting to boat gear from trap gear.

Sugar

Beet sugar refineries on the Pacific Coast apparently will be running around the clock from now until the first of the year to process an expected output of 13 million bags of beet sugar (last month's report should have ascribed this figure to the Coast only, not the entire West). California's production alone is expected to be 10½ million bags if the yield per acre is normal. Crop variations could swing it either above or below. Last year the California outturn was only 7.4 million bags; this year's increase is due to greater acreage, induced partly by acreage quotations imposed on beans and cotton. Many beet refiners had to turn down acreage because they did not have sufficient production capacity to handle all the possible volume.

As increased demand has moved much cane into consumer and trade channels, C&H added an extra day on July 22 to their ordinary five-day week at the big refinery at Crockett, Calif. If demand keeps up, there will be no problem of dumping Western beet and cane surpluses into the Mississippi Valley market. The USDA has increased the consumption estimate for the country by 350,000 tons, which would permit more foreign sugar, principally Cuban, to be fed into the domestic market, but on the other hand some foreign countries are trying to buy Cuban tonnage.

Meat

Slaughter in Western plants has jumped from 3 billion pounds to 6 billion pounds between 1925 and 1948, according to the Bureau of Agricultural Economics, and their proportion of the nation's total rose from 11% to 17%. At the same time, meat animal production in the eleven Western states increased only one-third, and the proportion of the total livestock raised in the West which was slaughtered in Western plants instead of moving East increased from a little less than half to about three-fourths.

BAE says that if consumption of meat per person in the Western states stays at about the same level as recent years, a population of 30 million in 1955 would consume about 1,200 million more pounds of meat animals than in recent years, which would be equal to 800,000 cattle, 375,000 calves, 1,100,000 hogs and 1,000,000 lambs.

SOFT PLYWOOD

From Bureau of the Census

PRODUCTION

(in thousands of square feet)

	1949	1950
April	160,376	207,431

WHEAT FLOUR

In thousands of sacks

(From Bureau of the Census)

	Apr. 1949	Apr. 1950
Oregon-Washington	971	914
Montana	264	245
Utah	259	315
Colorado	363	306
California	261	339
TOTAL	2,118	2,119

CONFECTIONERY AND COMPETITIVE CHOCOLATE PRODUCTS

(From Bureau of Census)
(In thousands of dollars)

	COLO. - IDAHO - UTAH	Per Cent Change from same month of Preceding Year	WASH. - OREGON -	Per Cent Change from same month of Preceding Year	CALIFORNIA -	Per Cent Change from same month of Preceding Year
1949	Sales		Sales		Sales	
November	861	-12	781	-11	3,038	-9
December	654	-20	583	-13	2,515	+2
1950						
January	479	-17	501	-19	1,906	-18
February	464	-9	456	+10	2,005	-11
March	482	-20	619	+1	2,344	-12
April	424	-16	454	-4	1,916	-7



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ALLOYS—Hot rolled, cold finished, heat treated

STAINLESS—Allegheny bars, plates, sheets, tubes, etc.

MACHINERY & TOOLS—For metal fabrication

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WESTERN INDUSTRY



WAR ORDERS...

Will You Be Ready for Them?

KOREA is much closer to the West Coast than it is to New York, New Orleans or New England. And the Korean situation is much more evidently reflected on the West Coast than it is anywhere else in the country. That simple thought is of paramount importance to industry in the West, for a number of reasons.

Shipping to the Orient will be funneled through the main Western ports (i. e. Seattle, Portland, San Francisco and Los Angeles). Freight will become a knotty problem. And transcontinental shipment of materials will take more time than war expediency permits.

All this adds up to one thing: there will be a concentration of industrial activity on the West Coast, in an effort to get much-needed war materials to the military services as quickly as possible.

In short, industry in the West will have to prepare to turn out military orders. If a general industrial mobilization comes about, industry will find itself faced with a dilemma: either turn out war orders or go out of business, because raw materials will be on allocation.

Today's problem, then, is: "What should I do, as a manufacturer of goods, to convert my operation to military production?" "How should I go about it?"

Who, Me?

Editor, Western Industry

I am a manufacturer of small items for civilian use. In event of a war emergency, I might have to convert my plant to military production. Could you help me in this effort by suggesting steps that I should take, in order to be ready to accept military orders without too much time delay?

A MANUFACTURER

Yes, You!

A Manufacturer

Obviously it is impossible to get down to specific details related to your individual business, since so many other manufacturers have requested substantially the same information. But we can provide you with a general guide for your thinking and planning, applicable to almost any business. See next page for pointers. EDITOR

YOUR WAR JOB... First Things to Do

1 Primarily, the function of mobilization planning should be assigned to one person, an executive in your plant. That person must be familiar with all your plant operations. He should know the problems of production, selling, accounting, reporting, legal action, etc., that arose in your plant during World War II. And he must be vested with adequate authority to get cooperation and assistance from operating departments.

2 You should have a detailed schedule of plant mobilization planning activities, with a definite cut-off date. (This date should be contingent upon the Government's need for your plant's capacities.)

3 You should develop now a list of things to be done when that emergency arises. These include (1) cancellation of current purchase orders, (2) changes in production schedules, (3) reconsideration of subcontractor relationships, (4) adjustment of labor disputes, and (5) assignment of new duties. There should be a time schedule for each action, showing the sequence of operations and when each is started and stopped.

4 Decide now whether your management operation would be able to spare any executives for military or other Government technical or managerial service. And you should prepare a list of key personnel whom you would recommend for Selective Service deferral.

5 Determine your plant's emergency requirements for material, labor, operating expenses in total, indirect manufacturing expenses, etc., and for changing or improving production facilities, including new machinery and tools for construction and equipping of new buildings.

Investigate the need and availability of short-term and long-term credit, to finance any future conversion. Prepare your financial operations now.

6 Decide how applicable are your normal materials to wartime production. Then estimate how long you would require, at normal consumption, to exhaust your present inventory. That date should provide you with a basis for figuring your entry into war production.

7 You should have an inventory of maintenance materials and supplies and "consumed tools" such as

drills, taps, blades, grinding wheels, tool bits, etc.

8 Make it a point to see that your plant is free under present contracts and all future contracts with suppliers to break off those obligations at short notice if emergency conditions alter your plant's raw material needs.

9 Certainly you should maintain an up-to-date roster of your present and prospective suppliers of raw materials, components, and "consumed tools" that your plant uses or might need.

10 Knowing what materials your plant normally requires that were in short supply during the last war, find out now what substitute materials of little or no strategic importance could be used to satisfy your requirements. And try to be sure that these substitute materials will be available in sufficiently large quantities so that they too will not become critical in an emergency.

11 Line up suppliers to provide these substitutes. Determine now what changes or adjustments in current equipment, operations, and production-scheduling would be required to enable your plant to use these substitute materials.

12 If you now have any subcontractors working for you, see that you are free under present contracts to terminate these contracts at short notice and take up emergency military contracts instead.

13 Plan to farm out on an efficient basis, the largest possible amount of emergency work to subcontractors. Develop your relationships with them now; find out what you want to know about them and line yourself up with firms that have:

1. Ability to do good work on schedule.
2. Flexibility.
3. Reasonableness as to pricing arrangements.
4. Cooperativeness.
5. Willingness to make quick changes in layouts, methods, and production controls.
6. Assure yourself that the subcontractor can deliver the contract goods on time.

14 Determine if your purchasing department could be maintained to serve your subcontractors as well as yourself.

15 If your plant is a subcontractor rather than a prime contractor, can you give a prospective prime contractor all essential information to help sell your services to him?

16 Familiarize yourself with late technical developments in the field of packing and packaging.

17 One of your greatest problems is going to be manpower, and it is likely to be of most immediate concern.

Make a survey of all your male personnel, and classify them according to military status. For example, at this writing, here are the classes of men immediately vulnerable:

- Reserve officers
- Reserve enlisted men
- National Guard
- Air National Guard
- Single men, non veterans, age 19-25 inclusive.

While you are getting this information, better get it on all your men between the traditional military ages of 18-45. And then make plans to train replacements for them. The sooner you do that, the better off you will be in the event of full industrial mobilization.

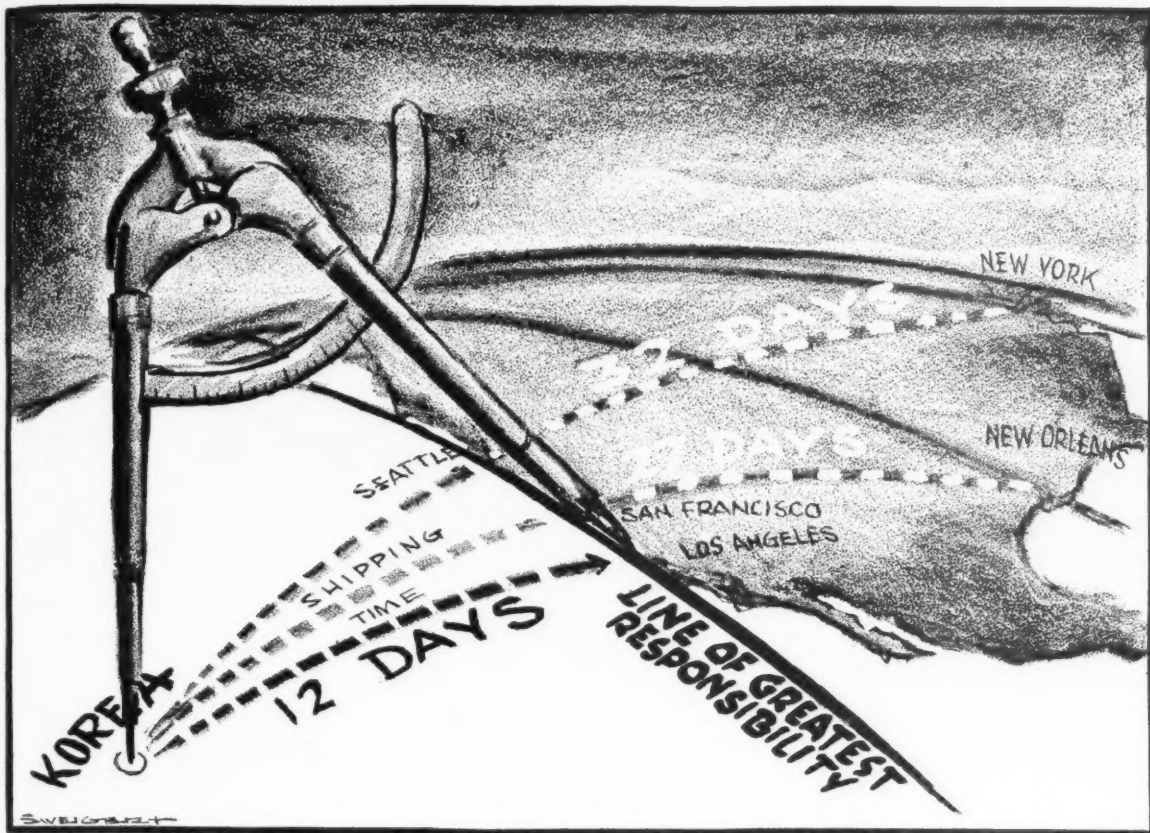
According to well informed opinion, there will be few occupational deferments for men between 18 and 35.

18 Review your employee situation, with an eye to cataloging available unused skills (including management, supervisory, engineering and technical personnel). If you find that you will need more employees in case of emergency, make available information of those needs to your local State Employment Service Office. Furnish that office with copies of job specifications.

19 Perhaps a down grading of raw material would be feasible in your production process. If so, first determine the impact upon your plant production costs from such changes in materials, and how production rates might change.

20 Make note of what materials and at what volume your plant can process (1) without additional equipment, (2) with *minor* equipment additions, (3) at one shift, two shifts, or three shifts production rates. Find out how many machine hours you have in excess of your present commitments.

Continued on page 38



Why Waste Shipping Days?

Time (which means men's lives) and money are saved by filling war orders from the West's manufacturing plants. Shipments to Korea from Atlantic or Gulf ports require 2 to 3 weeks longer than from West Coast ports. Shipments by rail from Eastern and Middle Western points to West Coast ports take 1 to 1½ weeks. Freight charges are obviously higher. Many more ships and freight cars are required, and larger inventories are in transit.

Manufacturing cycles and plant facilities being equal, the armed services and taxpayers have much to gain by utilizing the West's productive capacity to the fullest extent.

WATER TIME AND DISTANCE

	Nautical Miles	Steaming Time
New York to Pusan, Korea.....	11,809	32 days
New Orleans to Pusan, Korea.....	9,791	27
Pacific Coast ports to Pusan, Korea.....	4,920	12
(Average of Los Angeles, San Francisco, Seattle)		

(Above figures based on average 385 miles per day of a C-3 modern cargo type vessel, if steaming direct without stop; 2 days allowed for Panama Canal transit.)

RAIL TIME AND DISTANCE

	Land Miles	Estimated Freight Movement Time
Chicago-San Francisco.....	2,264	7 days
Detroit-San Francisco.....	2,547	10
Pittsburgh-San Francisco.....	2,732	11
New York-San Francisco.....	3,172	11
Chicago-New Orleans.....	921	2
Detroit-New York.....	687	2
Pittsburgh-New York.....	439	2
Chicago-New York.....	908	2

(Water figures from Pacific American Steamship Association. Rail figures from various railroads.)

21 If you expect to increase your employee force, see that you have service facilities and accommodations to take care of the new personnel. This includes lockers, toilets, wash facilities, parking space, health and first-aid treatment, restaurant, etc.

22 Get on the mailing lists of major procurement planning agencies. (See July 1950 *Western Industry*, page 31, "Now You Can Supply Uncle Sam's Needs and Make Money At It".) Familiarize yourself with Government specifications and terms.

The foregoing are but a fraction of the problems you should meet head-

on, by way of preparing yourself for military production.

23 After you have started thinking about preparation for war orders, your next step should be to contact one of the field or headquarters offices of the agencies responsible for production planning with industrial management.

24 Go there in person, well equipped with information about your plant. Offer your services, and plant's capacities. Talk to the persons in charge and let them know what you have to offer. Then, when an emer-

gency arises, you will be all squared away and ready to start operation without becoming all knotted up in last-minute red tape.

25 But if your shop makes, for example, structural steel items, don't waste your time trying to sell your products to the Ordnance Department of any service. Ordnance is concerned with firearms, tanks, ammunition, and precision machine work. Engineers are the people who buy structural steel work. They are the department that needs the bridges.

In short, sell your services and products to the logical buyer.

Where to Go and Who to See . . .

This is a list of the Small Business Liaison officials in the West prepared by the Munitions Board, Office of Procurement Methods. At this writing, it is the latest information we have available for you.

Military demands may require changes in individuals listed, but the offices and addresses remain the same.

Commanding Officer
Seattle Port of Embarkation
Small Business Liaison Office
Seattle, Washington
Attn.: Capt. Frank A. Bartell

Commanding Officer
San Francisco Port of Embarkation
Small Business Liaison Office
San Francisco, California
Attn.: Lt. Col. Benj. Modisett

Commanding Officer
Oakland QM Purchasing Office
Small Business Liaison Office
Oakland Army Base
Oakland, California
Attn.: Capt. W. H. Smith

Commanding Officer
Los Angeles Ordnance District
Small Business Liaison Office
35 North Raymond Avenue
Pasadena 1, California
Attn.: Col. W. S. Broberg

Commanding Officer
San Francisco Ordnance District
Small Business Liaison Office
Oakland Army Base
Oakland 14, California
Attn.: Lt. Col. C. F. Kaiser

Commanding Officer
Benicia Arsenal
Small Business Liaison Office
Benicia, California
Attn.: Col. L. A. Nickerson

Commanding Officer
Mt. Rainier Ordnance Depot
Small Business Liaison Office
Tacoma, Washington
Attn.: Col. R. O. Welch

Commanding Officer
Navajo Ordnance Depot
Small Business Liaison Office
Flagstaff, Arizona
Attn.: Col. Arthur B. Custis

Commanding Officer
Ogden Arsenal
Small Business Liaison Office
Ogden, Utah
Attn.: Col. C. Wingate Reed

Commanding Officer
Pueblo Ordnance Depot
Small Business Liaison Office
Pueblo, Colorado
Attn.: Col. C. H. Keck

Commanding Officer
Sierra Ordnance Depot
Small Business Liaison Office
Herlong, California
Attn.: Col. B. S. Mesick

Commanding Officer
Umatilla Ordnance Depot
Small Business Liaison Office
Ordnance, Oregon
Attn.: Lt. Col. G. F. Glass

Commanding Officer
Wingate Ordnance Depot
Small Business Liaison Office
Gallup, New Mexico
Attn.: Lt. Col. F. K. Eccles

Dist. Eng., Portland District
Corps of Engineers
Small Business Liaison Office
628 Pittcock Block
Portland 5, Oregon
Attn.: Mr. R. G. O'Neil

Dist. Eng. San Francisco District
Corps of Engineers
Small Business Liaison Office
74 New Montgomery St.
San Francisco 19, California
Attn.: Mrs. V. W. Gottschalk

Dist. Eng. Seattle District
Corps of Engineers
Small Business Liaison Office
4735 E. Marginal Way
Seattle 4, Washington
Attn.: Mr. L. O. McCue

Commanding Officer
San Francisco Medical Depot
Small Business Liaison Office
Bldg. 590, Oakland Army Base
Oakland 14, California
(7th & Maritime Streets)
Attn.: Mr. J. M. Camp

Commanding Officer
Rocky Mountain Arsenal
Small Business Liaison Office
Denver, Colorado
Attn.: Maj. W. Stegmaier

Commanding Officer
Western Chemical Center
Small Business Liaison Office
Tooele, Utah
Attn.: Mr. W. Davis

Commanding Officer
San Francisco Chem. Proc. Dist.
Small Business Liaison Office
Oakland Army Base
Oakland, California
Attn.: Col. James M. McMillan

Officer-in-Charge
U. S. Navy Purchasing Office
Small Business Liaison Office
1206 S. Santee Street
Los Angeles 15, California
Attn.: Lt. J. J. Shelton SC USN

Yards & Docks Supply Officer
U. S. Naval Constr. Battalion CTR
Small Business Liaison Office
Port Rueneme, California
Attn.: Lt. C. A. Hanson SC USN

Officer-in-Charge
U. S. Navy Purchasing Office
Small Business Liaison Office
180 New Montgomery Street
San Francisco 5, California
Attn.: Lt. Cdr. A. D. Macrae SC USN

Depot Quartermaster
Marine Corps Depot of Supplies
Small Business Liaison Office
100 Harrison Street,
San Francisco, California
Attn.: Lt. E. C. Dresbach, USMC

Depot Quartermaster
Marine Barracks
Camp J. H. Pendleton
Oceanside, California
Attn.: Lt. J. B. Anderson USN

Chief, Los Angeles
USAF Procurement Field Office
Small Business Liaison Office
P. O. Box 3849, W. Washington Blvd.
Los Angeles, California
Attn.: Mr. D. F. Marshall

Supply Officer
Puget Sound Naval Shipyard
Small Business Liaison Office
Bremerton, Washington
Attn.: Lt. Cdr. D. C. Christensen, USN

Supply Officer in Charge
U. S. Naval Supply Depot
Small Business Liaison Office
Seattle 99, Washington
Attn.: Lt. J. E. Moeller SC USN

Take in the Western Packaging Show and Get Wised Up

PACKAGING, Packing, Shipping, and Materials Handling are the main problems to be discussed at the nine conference sessions held in conjunction with the third annual Western Packaging and Materials Handling Exposition at the San Francisco Civic Auditorium, August 16, 17, and 18.

Basic theme of these conferences will be "quality protection." Speakers will include many top names in the field.

Show officials expect this year's program to draw about 1,000 more executives than were present last year.

PROGRAM

DR. WILLIAM RABAK, Program Chairman
Western Regional Research Laboratory, U. S. Department of Agriculture, Albany, California

WEDNESDAY MORNING, AUGUST 16

Session Chairman: H. C. DIEHL, Director and Secretary, Refrigeration Research Foundation, Berkeley, California.

10:00 "PROBLEMS IN AIR TRANSPORTATION"

Dr. Weldon B. Gibson,
Chairman, Industrial Economics Division, Stanford Research Institute, Stanford, California.

The importance of air transportation to the shippers of perishables, its problems and their solutions, will be ably discussed by Dr. Gibson.

10:45 "1951 PACKAGING FILMS AND WRAPPING MATERIALS"

John Delmonte,
Packaging Materials Consultant, Glendale, California.

Here is an opportunity to listen to an expert cover an important field with a few good predictions injected for good measure. Mr. Delmonte's talk is a "must."

11:30 "IMPROVED CONTAINERS AND LOADING METHODS FOR PERISHABLE COMMODITIES"

A. M. Fielding,
Superintendent, Trans-Continental Freight Bureau, San Francisco, California.

A subject of wide interest and importance to everyone. As it is inexhaustible in its ever-changing improvements, everyone should hear Mr. Fielding and thereby be assured of learning the latest improvements.

WEDNESDAY AFTERNOON, AUG. 16

2:00 "MR. PACKAGING ENGINEER: 'HAVE YOU THOUGHT OF WAREHOUSING TOO?'"

H. J. Nissen,
Terminal Refrigeration Company, Los Angeles, California.

The answer generally is "yes"—but not in the space saving, cost reduction ways and means Mr. Nissen has in mind. This is a time, money, and space saving talk of high importance.

3:00 "YOU CAN DO BUSINESS WITH THE GOVERNMENT"

Merrill Woodruff,
Business Specialist, Field Service, U. S. Department of Commerce, San Francisco, California.

As Mr. Woodruff will point out, there is nothing difficult in doing business with the Government. He will tell you how you may make arrangements to share in the large and profitable volume of business.

THURSDAY MORNING, AUGUST 17

Session Chairman: W. B. VAN ARSDEL, Assistant Director, Western Regional Research Laboratory, U. S. Department of Agriculture, Albany, California.

10:00 "DEVELOPING SALES APPEAL WITH PROTECTIVE PACKAGES"

Fred Levy,
President, Blum's Confectionery, San Francisco, California.

Fully appreciating the value of eye appeal, Mr. Levy will tell how it can be ably tied in with quality protection.

10:45 "PACKAGING A SEASONAL PRODUCT"

G. B. Ridley, Engineer,
California Walnut Growers Association, Los Angeles, California.

Seasonal products require specialized packaging and handling methods. Mr. Ridley will discuss the application of new developments in this field.

11:30 "PROTECTIVE PACKAGING WITH MOLTEN THERMOPLASTICS"

Dr. William Rabak,
Western Regional Research Laboratory, U. S. Department of Agriculture, Albany, California.

Dr. Rabak will discuss industrial applications of air and moisture tight dip-coating of plasticized microcrystalline paraffin and other thermoplastics.

THURSDAY AFTERNOON, AUGUST 17

2:00 "MATERIALS HANDLING AND THE DIVISIBLE CASE"

E. N. Burnett,
Chief Engineer, Western Division, Gerber Products Company, Oakland, California.

A new technique combining materials handling and packaging in a heretofore untried manner. Mr. Burnett has a story of interest to anyone desiring to save time, money, and labor.

3:00 "MECHANIZED POWER AND GRAVITY IN MULTIPLE FLOOR OPERATION"

Arnold H. Fox,
Warehouse Manager, F. W. Woolworth Company, San Francisco, California.

Forty years of experience in warehouse operation places Mr. Fox in a very favorable position to offer many valuable suggestions on this important subject.

Exhibitors, Products, Personnel

American Machinery Company, San Francisco.

Encapsulating machines and special type weighing machines.

Function: Packaging and weighing.

Personnel in attendance: John C. Meyer, Geo. B. Holmes, Jack O'Sullivan and Stanley Fiddler.

André Paper Box Company, San Francisco.

Exhibition of all types of folding paper boxes and packaging.

Function: Packaging designed to meet the individual needs of the manufacturer, or of the product which is to be packaged.

Personnel in attendance: Noble André, A. J. Loesch, vice-president, Lorne R. Stanley, Louis Michetti, art director, and Douglas Ames Wheelock.

The Arabol Manufacturing Co., New York City.

Exhibition of many of the packages produced by our customers, using Arabol adhesives.



DR. WILLIAM RABAK



VANCE SUMNER

Personnel in attendance: Harold Lietz, Jack Hanny, Robert Bregoff, Earl Hecker, Jr., Arthur D. Campbell, George Vrachliotti, L. R. Langfeldt, George Plews and Spencer Tilden.

Avery Adhesive Label Corporation, Los Angeles, San Francisco and Monrovia, Calif.

KUM-KLEEN Labels and the KUM-KLEEN Labeling Method will be exhibited. Function: Dispenses paper, metallic or transparent self-adhesive labels.

Personnel in attendance: Wayne G. Proper, Howard S. Black and John S. Torrey.

Better Packages, Inc., Shelton, Conn. Counterboy Moistening Control will be demonstrated and tested.

Function: To give satisfactory gummed tape sealing under all conditions.

Personnel in attendance: Don Budge, Regional Distributor of West Coast territory; Bob Tuke from the Los Angeles sales office, and M. W. Waggoner, general sales manager from the factory at Shelton, Connecticut.

Peter D. Bowley and Associates, San Francisco and Los Angeles.

Packomatic Automatic Machinery; U. S. Bottlers Machinery; Doughboy Heat Sealing Equipment; Weigh-Right Automatic Scales; Bartelt Bag Making and Filling Equipment; Elgin Piston-type Filling Equipment; Chisholm-Ryder of Pennsylvania Labeling Machine and Robot Can Ejectors.

Function: The above group of machinery will comprise shipping case sealing machines, carton sealing and filling equipment, bottle cleaning and filling equipment, heat sealing equipment, automatic and semi-automatic volumetric fillers for handling dry products, bag-making and filling and sealing equipment, piston-type filling equipment and can and bottle labeling and casing equipment.

Personnel in attendance: Wayne L. Hall, Peter D. Bowley, Roy C. Duncan, Dwight Landreth, and Stanley Day, from the San Francisco and Seattle offices; F. J. Bott, Ogden, Frank Shaw and Watts King, Los Angeles office.

B. H. Bunn Company, Chicago, Illinois, and San Francisco.

Exhibition of Bunn Package Tying Machine.

Function: To mechanically tie with cotton, jute or sisal twine, anything that can be hand tied.

Personnel in attendance: Ralph E. Peters, Sr., and Ralph E. Peters, Jr.

Edward Butts Sales Co., San Francisco.

Brown Bridge Mills heat seal and flat gum papers and tapes; Wilstitch wire; Addison Semmes expendable pallets; Potdevin label activators; Ideal stitching machines.

Personnel in attendance: Edward Butts, Herbert McGee, Miss Harriet Fabian.

Cellotape Printers, Palo Alto, California. Printed cellotape for use in package sealing, labeling, and point of sale advertising.

MEMBERS OF CONFERENCE COUNCIL

MR. RICHARD L. BARNHOUSE, Merchandising Director, Golden State Co., Ltd., 425 Battery Street, San Francisco, California.

MR. R. M. HAGEN, President and General Manager, California Consumers Corporation, Los Angeles, California.

MR. FRANK H. ALBERS, JR., Production Manager, Carnation Albers Company, 2700 - 7th Street, Oakland, California.

MR. M. A. GIANNINI, In Charge of Manufacturing, Blum's Confectionery, Polk and California Streets, San Francisco, California.

MR. A. V. SCHLOTZHAUER, Superintendent of Production, Beech Nut Packing Company, Phelan Avenue and Senter Road, San Jose, California.

MR. VANCE SUMNER, Superintendent of Operations, California Almond Growers Exchange Sacramento, California.

MR. W. E. BAIER, Manager of Research, California Fruit Growers Exchange, Ontario, California.

MR. H. C. DIEHL, Director and Secretary, Refrigeration Research Foundation, Berkeley, California.

MR. WILLIAM H. JAENICKE, President, Mailler Searles, Inc., 300 Seventh Street, San Francisco, California.

MR. THEODORE J. NELSON, Packaging Engineer, C & H Sugar Corp., Ltd. 215 Market Street, San Francisco, California.

DR. WILLIAM RABAK, Chemist, Western Regional Research Laboratory U. S. Department of Agriculture, Albany, California.

MR. KENNETH K. DEAN, Publisher, Good Packaging, 210 Mississippi Street, San Francisco, California.



H. C. DIEHL

Function: Low-cost means of product identification and labeling.

Personnel in attendance: Wendell P. Dubbs, vice-president, and Prentiss I. Cole, president.

Ralph Chaffee & Company, San Francisco.

The Chaffee Rotor-Sealer, heat sealing machine, sealing bags made from polyethylene, pliofilm, saran, cellophane, metal foil and glassine, as well as the sealing of bag top labels on transparent bags. Movie of installations at various plants.

Function: Drawstring bags and elastic top closure bags sealed on a production line basis.

Personnel in attendance: Ralph Chaffee, Roy R. Wallace, Karl W. Mattox and Peter S. Starr.

Container Corporation of America, Chicago.

Exhibit will consist of folding cartons for retail units and corrugated and solid fibre shipping containers demonstrating the variety of commodities shipped safely in paperboard. There will also be fibre-bodied cans especially for frozen foods, together with paperboard specialties.

Personnel in attendance: Packaging engineers.

The Denton Corporation, Oakland, California.

Dent-O-Pak transparent bag; the Quik-Tye transparent bag and the Dent-O-Matic Packaging Machine.

Function: Bags designed principally for the fruit and vegetable trade and for the textile trade. Pliofilm, Cellophane, Acetate and Polyethylene used in the manufacture of these bags.

Personnel in attendance: Wil Evans, president; H. R. Denton, vice-president; A. W. Anderson, secretary-treasurer; B. J. "Cap" Pedretti, sales representative; John D. Kirby, sales representative; Delbert S. Hawkey, plant superintendent; Francis I. Gilbert, office manager; and Betty J. Conley, plant supervisor.

Dolliver and Bro., San Francisco.

Exhibition of products of Markem Machine Co., manufacturer of industrial marking equipment.



FRED LEVY

Personnel in attendance: David Putnam, Clarence S. Burtchaell, and Sam Burtchaell.

The Dow Chemical Company, Midland, Michigan.

Display will feature saran film—food packaging uses; Ethocel Sheeting—Drawn and fabricated containers, miscellaneous uses for rigid sheeting; Styron—rigid containers; Styrofoam—packaging and display uses.

Personnel in attendance: W. R. Dixon, assistant sales manager, plastics division; W. H. Nickless, plastic merchandising; R. J. Minbiole, L. E. Fake, F. C. Dulmage, and R. L. Butler, plastic sales and plastic technical service at Midland. Attending from the company's branch sales offices are: J. L. Sherk, San Francisco, and D. R. Ebey, Los Angeles.

Ray T. Ebert Company, Redwood City, California.

Jiffy macerated paper packing pads, used wherever protective packaging is needed. Flexible, shock absorbent, water repellent, insulating.

The Exact Weight Scale Co., Columbus, Ohio.

Exhibit will feature SELECTROL, Model No. 1200, which is a new, high-speed electronic check-weighing scale; also regular line of EXACT WEIGHT and Shadograph industrial and packaging scales will be shown.

Function: High-speed, completely automatic checkweighing scale used in production lines of predetermined weight packages, to prevent underweight or overweight packages from reaching the ultimate consumer.

Personnel in attendance: T. R. Mantes.

Fancy Container Division, I. D. Company, New York City.

Embossed and lithographed highly decorated metal containers.

Functions: For packaging of bakery products, confections, teas, and many other products.

Personnel in attendance: A. S. Katzman and Victor Cowley.

The Flintkote Company, Los Angeles.

Corrugated shipping containers and fold-

ing cartons applicable to various industrial problems.

Function: Proper shipment and merchandising of a vast number of manufactured items.

Personnel in attendance: Wilson Harvey, Folding Cartons; John Kumler, Corrugated Shipping Containers; Dwight Tudor, sales manager Folding Carton Division; Philip Paul, manager Container Division.

The Globe Company, Chicago.

Exhibition of line of fully automatic Knapp wrapping machines for use with cellophane, plioform or acetate.

Function: Applying an over-wrap of either clear or printed film on any square or rectangular package.

Personnel in attendance: D. P. Gambill, Kenneth Knapp and D. S. Macaulay.

The Goodyear Tire & Rubber Company, Inc., Akron, Ohio.

Plioform Packaging Exhibit representing a replica of a modern super-market where Plioform wrapped self-service food items such as meat, cheese, fresh produce, coffee, dried fruit, pickles as they are customarily sold in food markets, will be shown.

Personnel in attendance: E. H. Dours, A. B. Clunan, A. E. Grundy, W. A. Boudry, D. L. Abshire, W. B. Wold and T. J. Blosser.

Hyster Company, Portland, Oregon.

Six models of the Hyster Company's high and low lift trucks. Included will be three models of the recent Hyster Salsbury addition to the company's line of materials handling equipment. On display will be the "Entirely New" Hyster 20, including one machine equipped with the Load Grab attachment; the Hyster 40; and the Hyster Salsbury Tug, Pallet and Platform trucks.

Function: Tractor or towing units, platform and pallet models for commodities in tote boxes and skids.

Personnel in attendance: Phil Hill, general sales manager; Dar Johnson, sales promotion manager; Ray Ronald, Western sales manager; Robert F. Moody and Thor Pearson, sales promotion, from Portland; Karl Barr and Jack Wright, Hyster district managers; Robert Golden, manager San Francisco office; Earl Shine, Allen Post, John Wright and Peter Barry, from San Francisco office; William H. Kilkenny, manager of Los Angeles office; John W. Givens, manager of Hyster sales, Portland; and V. G. Lindenberg, manager of Hyster Company, Seattle.

The Island Equipment Corp., Long Island City, N. Y.

Styl-O-Matic Straightline Unscrambling Tables. Two types of unit construction will be shown. Complete line of gravity rollers, bearings and belting will be exhibited.

Function: Permits the unscrambling of bottles, jars, cans, or containers into a single regimented line onto a receiving conveyor of the filling line.

Personnel in attendance: J. W. Stiles, general manager, and N. W. Gross, field manager.

Kaiser Aluminum & Chemical Sales, Inc., Oakland, California.

The exhibit will feature the company's foil division. End products produced by Western foil customers and samples of the bare Kaiser Foil will be shown.

Personnel in attendance: Fred J. Drewes, Robert Harris, F. Ashton Smith, and W. F. Boyer.

Kimberly-Clark Corporation, Neenah, Wisconsin.

Exhibit of Kimpak creped wadding.

Function: Product used to "float pack-



R. M. HAGEN

age" goods in transit for protection from damage or breakage.

Personnel in attendance: H. P. Westler, E. J. Keefe, Jr., Art Croxson, R. N. DeWilde and E. B. Westlund.

King & Anderson, San Francisco, Los Angeles, Portland, Seattle.

A Resina Automatic Machinery Company, Type XRUI, high speed capper. Automatic set up machine manufactured by the Carando Machine Works. Various automatic marking devices manufactured by Adolph Gottscho, Inc., and miscellaneous types of containers and closures.

Personnel in attendance: Herbert King, F. H. Pelletier, Frank Dorian, R. E. Midgley, Frank Bellato and Ira Gottscho.

T. R. Mantes Company, San Francisco.

Display of Exact Weight Selectrol Scales, Exact Weight Semi-Automatic Weighers, Exact Weight Pre-determined Weight Scales, and Mantes Air-operated Liquid Filling Machines for cans and drums.

Personnel in attendance: T. R. Mantes, George Mattimoe, Francis Darman and Tommy Purcell.

Marathon Corporation, Menasha, Wisconsin.

Complete line of protective food packages and packaging materials.

Personnel in attendance: Hugh W. Hicks, sales manager, Western Region; Wm. R. Venable, sales representative; Anton Kuehn, sales representative; Norm Knights, sales representative, and Bob Smith, sales representative.

Matson Navigation Company, Wilmington, California.

Models will be shown of the SS LURLINE and a C-3 freighter. Curtain exhibiting a cross section of a C-3 in stowage. Curtain will show examples of how cargo is loaded tier by tier and floored off by the use of dunnage. Interesting scenes of various islands of the Hawaiian group and about 10 minutes of each hour will be shown slides of vessel operations.

Personnel in attendance: Captain Van Orden, R. F. McDonald and Miss Alice M. Rogers.

Continued on page 73



THE NEW PACKAGE appears larger because of new label, which is brighter, decorative, informative, has more shelf appeal and message is easily grasped from any angle. Lariat type oval focuses shoppers' attention on major points of the package.

Smart Packages Make People Buy

By NORMAN STEUER

Norman Steuer Associates
Industrial Designers
San Francisco

THE PAST year or two has seen an acceleration of the packaging pace in the West. A multitude of items have been redesigned and the end is not yet in sight.

War years placed the stamp of simplicity on packaging which is still evident, and this has proved to be a help

rather than a handicap in many ways. The Supermarket has grown in the past war years and a natural result has been more impulse buying. A package of simple, attractive but outstanding design will pull more consumers to it than a complex design.

Recent studies have proved that an

increasing percentage of the housewives' shopping is based on impulse. In other words, she will frequently buy many items she had no intention of purchasing when she entered the store. These items had to be colorfully and attractively designed to make them "sell on sight."

BEFORE (Jars shown below) and AFTER (Group shown above). As youngsters are the principal peanut butter consumers, the old label was redesigned with a popular "Western" appeal. New type cap with recessed ring permits more efficient nesting.





BEFORE

The old jug, at left, has no point of instant identification for vital information such as the giant "S" in red which stands out in the new package shown below and which avoids any danger of confusion with competitive items.

the better the chances are that he will achieve the results hoped for.

Frequently we find businessmen remarking that redesign is well enough for packages and products such as groceries or radios, but not much else. This is a costly mistake if design and color are not used fully throughout each and every part the public sees.

Not more than 20 years ago the trucks on our city streets and country roads were disreputable and lacking in color, character and design. Then a few brave souls took the first steps to "brighten 'em up." Three direct results were apparent immediately:

1. Public relations were helped in that the trucks could be easily seen and hence were less of a traffic menace.
2. More advertising of the product, package or service was possible.
3. Drivers took more pride in their trucks and kept them cleaner and in better condition.

Here color and design played an indirect consumer role, yet helped the management directly.

Whether you make, produce or pack or package anything from air pumps to zinc plate, you should use good color and design and packaging. Somewhere in the great packaging industry you can find a clue to your needs.

Packaging has constantly led the parade in sensing public desires and trends, and it will continue to do so as long as the public buys hundreds of different items under tens of thousands of brand names each year. This leads to healthy competition and an expansion of color and design throughout our lives.

The West has always been a country that packed huge quantities of fruit, vegetables and wines, but its first awakening to a wide need of packaging came during the war and post war years. Analysis of this proved to be interesting since it was due to the 30 to 40% increase in population. All of these people were newcomers who brought their old shopping habits and package brand desires into California. This meant a large demand built up for Eastern brand names. As Eastern firms opened plants in the West, Western producers found that they were getting less than their share of the trade, or actually were slipping down hill.

The next step was an analysis of what was happening. Price and quality being equal, Western packers had to redesign to keep in the swim competitively. Fabricators and suppliers of packaging materials and the designers have worked hand in hand to raise the standard of package design, which in turn leads to lowered costs and increased sales.

It has been said that given a choice between an attractive and an unattractive package (everything else being equal) the consumer will choose the more attractive item. But the attractive package seldom "just happens."

It has been apparent recently that more concentrated and serious study will have to be given the preliminary research, or analysis, before any redesigning is attempted. We do this as a natural first step, and in some cases it has been handled by an advertising

agency or an outside source in conjunction with the designer and/or agency.

Business frequently is "sick" due to the inadequacy of its package at the point of sale. How similar is the condition of an ailing person or poor salesman. In one case a doctor's diagnosis will ferret out the trouble and in the other a sales analyst will recommend personality changes.

Your designer is, in a sense, an analyst of both factors of your package. The greater his varied experience,

AFTER

Label of the new jug (right) in light blue-green and white, puts across effect of clean refreshing product (janitorial supplies). Change to shorter name "Suntest" is another aid to identification. Numbering each product makes re-ordering easier.



Take the Initiative and Save Money on Pollution Control

NOW that the California Water Pollution Control Act is being reduced to actual practice, there are signs that industries and communities will act like the penniless man who threw up a job of sorting apples into two piles, one for the good and the other for the bad, because it was too hard to make so many decisions.

They will be following the example of this penniless man if they do not insist upon the opportunity, which the new law affords, to figure out for themselves what sewage and waste treatment program they should use to do the job of so controlling the discharge of their portion of the sewage loading on a receiving water that pollution and nuisance will be within specific requirements established by the Regional Boards.

Similarly they will be failing to use the opportunity offered in the law to solve their problems, if they ask the boards to approve each individual set of plans so that they will be relieved of determining that their own portion of the overall job will be safe from prosecution for violations. If they insist on some such assurance from the Board, they will be just like the penniless man, entirely free from perplexities and responsibilities. This will amount to asking the newly-appointed Regional Control Boards and the State Board to set up "standards" supposed to fit every situation.

So the pollution control systems are likely to tend toward the super-duper, a throw-back to the permit system, based on proposals reviewed and passed on in advance, whether necessary or not. The keen-witted plant manager or city engineer who can get the required results in terms of pollution control in receiving waters by doing it some better and cheaper way will be just out of luck. Before that unhappy circumstance comes to pass, let us review the situation as it presently exists.

Scope of authority and the procedure for regulatory action by the Water Pollution Control Boards differ materially from practice in most states. California has enacted into law the philosophy that regulation of use of water should be based on a balance



GENERAL W. T. HANNUM
Chairman, California State Water
Pollution Control Board

Chairmen of the Nine Regional Boards

1. North Coastal Region: M. W. Husband, M.D., (Health Officer of Humboldt County) Eureka.
2. San Francisco Bay Region: J. S. Longwell, (Executive, East Bay Municipal Utility District) Piedmont.
3. Central Coastal Region: Neal D. Smith, (City Manager, Santa Cruz) Santa Cruz.
4. Los Angeles Region: Ray L. Derby, (Principal Sanitary Engineer, Los Angeles Bureau of Water and Power) Los Angeles.
5. Central Valley Region: Carl M. Hoskinson, (Superintendent, Sacramento City Water Dept.) Sacramento.
6. Lahontan Region: C. W. Anderson, M.D., (County and City Health Officer) Bishop.
7. Colorado River Basin Region: C. R. Kroeger, M.D., (Health Officer, Imperial County) El Centro.
8. Santa Ana Region: Horace P. Hinckley, (General Manager, Bear Valley Mutual Water Co.) Redlands.
9. San Diego Region: M. J. Shelton, (General Manager & Chief Engineer, La Mesa Lemon Grove & Spring Valley Irrigation District) La Mesa.

of costs and benefits, to the end of obtaining maximum use of waters within the limits of good but realistic con-

servation practices. The law is distinguished in that use of waters for dilution and disposal of sewage and industrial waste is recognized as one of the beneficial uses and, within limits, can be the use of most value.

The opportunity for industries and municipalities to dispose of sewage and wastes at least cost is developed in the law by newly defining concepts of "contamination" on the one hand, and "pollution" and "nuisance" on the other.

The law makes a clear distinction between "contamination"—a condition threatening the public health—and "pollution" and "nuisance"—which do not imply a threat to the public health. As to contamination, it clearly must (and should) be abated immediately.

On the lesser offenses not threatening the public health, the relative importance of esthetic considerations weighed against the community or industrial usage involved may—and should—properly be considered.

The law sets up a State Water Pollution Control Board. In addition the Governor is directed to appoint nine Regional Boards consisting of five members. The appointments have been made to give good distribution of representation of different classes of interest since the boards have a total of 35 members.

In addition, each board is provided with an executive officer who directs the activities of varying numbers of secretarial and technical personnel.

The State Board has the duty to undertake state-wide planning for pollution control and to act in an advisory capacity to the Regional Boards. The State Board may act in any specific instance of pollution where it finds that a Regional Board has not taken proper action.

In brief, each Regional Board shall:

(1) Obtain coordinated action in the abatement, prevention and control of water pollution and nuisance by means of formal or informal meetings with the persons involved.

(2) Encourage and assist the self-policing waste disposal programs for industry and, upon application of any person, shall advise the applicant of the condition to be maintained in any

disposal area or receiving waters into which the waste is being discharged.

(3) Require any state or local agency to inspect and report on any technical factors involved in any water pollution or nuisance. (For example, the State Fish and Game Commission will act through the Regional Board for the area involved, in the correction of water pollution.)

(4) Request enforcement of laws concerning water pollution or nuisance

by appropriate federal, state and local agencies.

(5) Formulate and adopt long range plans and policies with regard to water pollution control within the region.

(6) Recommend to the State Water Pollution Board projects for the reduction of water pollution which the Regional Board considers eligible for any financial assistance which may be available through the State Board.

(7) Report to the State Board, the Department of Public Health, and appropriate local health officer any case of contamination in its region which is not being corrected.

(8) Prescribe requirements relative to any particular condition of pollution or nuisance existing or threatened.

The new law provides for fundamental and extensive changes by dividing the major responsibilities for control between the Department of

Method for Analysis of Waste Disposal Problems

PART I

Comparison of the relative public and private "interest" in solving the waste problem, with the "interest" in preserving the beneficial uses of water involved.

STEP 1—For the discharge in question, record the following information or facts:

- (a) Necessity of the disposal.
- (b) Assessed valuation of the source of the waste (industry, city, etc.).
- (c) Number of people identified with the source of the waste (industry, city, etc.).

STEP 2—Determine or estimate for the waste and receiving body of water in question, the zones of influence with respect to:

- (a) Bacterial effects.
- (b) Biochemical effects.
- (c) Physical effects.
- (d) Chemical effects.

STEP 3—Within the appropriate zone of influence, list the beneficial uses of water affected and for each separate beneficial use, list the following information:

- (a) Necessity for the use.
- (b) Assessed valuation involved in the beneficial use (farm, city, industry, etc.).
- (c) Number of people identified with the beneficial use.

PART II

Effects of discharge of wastes.

STEP 1—For the discharge in question, record the following data:

- (a) Liquid volume of waste in gal./day.
- (b) Bacterial, biochemical, physical and chemical characteristics of the waste.

STEP 2—For that portion of the receiving body of water as will be intermixed with the waste, record the following data:

- (a) Volume of "flow" in cu. ft./sec.
- (b) Bacterial, biochemical, physical and chemical characteristics before discharge is made.
- (c) Bacterial, biochemical, physical and chemical characteristics after discharge is made.

STEP 3—For each beneficial use affected by the waste, record the following data:

- (a) Volume of water "used" in gal./day.
- (b) *Optimum* bacterial, biochemical physical and chemical characteristics associated with the beneficial use.
- (c) *Maximum* or *limiting* values of bacterial, biochemical, physical or chemical characteristics beyond which beneficial use would to practical purposes be destroyed.

PART III

Balancing requirements of waste disposal against those of water use.

STEP 1—From the data in Steps 2 and 3 of Part II tabulate the following:

- (a) Beneficial uses "destroyed" by the waste discharge.
- (b) Beneficial uses damaged but not destroyed by waste discharge.

STEP 2—From the data in the preceding steps, compute the degree of "treatment" and cost of "treatment" to do the following:

- (a) Maintain at least limiting values of the quality characteristics required by each beneficial use (at point of use).
- (b) Maintain optimum values of the quality characteristics required by each beneficial use (at point of use).

STEP 3—On the basis of the data in Steps 1 and 2 of this Part, and in view of the relative values shown in Part I, determine by the exercise of *judgment*:

- (a) Those uses for which *optimum* values of quality characteristics are to be maintained.
- (b) Those uses for which values of quality characteristics exceeding the *optimum* but not exceeding the *limiting* are to be maintained.
- (c) For those uses in Section (b) above, the degree by which the optimum values of quality characteristics may be exceeded to accomplish the best over-all solution to the problem.

STEP 4—Translate the decisions reached in Step 3 of this Part into actual effluent requirements.

It is acknowledged that the foregoing method is a combination of *objective* and *subjective* procedures, but this is inescapable if the decisions are to be reasonable and judicial as provided in the statute.

Public Health and the Regional Water Pollution Control Boards, and by making the Boards responsible for coordination of action of other agencies such as the Fish and Game Commission and Division of Water Resources. The importance of that provision cannot be overemphasized, nor can the fact that the largest portion of responsibility for accomplishing pollution control and reducing the intent of the law to practice rests with the Regional Boards. These Boards need wholehearted assistance and cooperation from affected industries and cities in this initial stage of developing workable means for stating requirements.

The new responsibilities and definitions must be interpreted and expanded for the sake of workability, and it is the opinion of all concerned in application of the law that a method of analysis of individual situations should be agreed upon. But it must be borne in mind that setting up standards for the water itself is a different matter; what is essential in one locality may not be in another. Development of uniform requirements for statewide application would be contrary to the intent and letter of the legislation.

In an effort to obtain the viewpoints of those most concerned with the pattern of administrative procedure now in the making, the State Board has circulated a restatement of the objectives of the law.

"The *Objective* of the State Water Pollution Control Board is the prevention and

control of pollution and contamination of the waters of the State at a minimum of expense consistent with obtaining this objective. In achieving this objective, it will be the *Policy* of this Board that its actions and those of the Regional Water Pollution Control Boards shall be so directed as to secure that degree of care in the planning and operation of works for the treatment and disposal of sewage and industrial wastes as will adequately protect the public health and all of the beneficial uses of waters in this State and at the same time permit the legitimate planned usage of those waters for receiving suitably prepared wastes so that an orderly growth and expansion of cities and industries may be possible. The Board recognizes the paramount importance of securing a uniform approach to these problems in the nine regions of the State and will have as one of its earliest tasks the development of a practical working interpretation of the above stated objective and policy to guide the Regional Boards in their relations with the State Board and to assist the Regional Boards in establishing waste disposal requirements for each locality of the State."

While the law anticipates that regulation be through specification, case-by-case, of end results to be maintained, it requires that such local regulation shall conform to a common broad basic policy applicable throughout the state. In particular, the Boards want to have comment from industry on the proposal to use the method of analysis of each situation as shown in the accompanying table.

An important step has been taken also by the executive officers of the Boards that was not anticipated in the legislation. They have organized informally in order to meet and discuss uniform mechanics for handling paper work. However, when in group meetings, the executive officers have been careful to confine their semi-official actions to matters of mechanics in order to prevent possibility of becoming a "Privy Council" of the Regional Boards on subjects of policy.

There is real opportunity for efficiency and economy under this new law, which results from a two-year study made by an Interim Fact-Finding Committee on Water Pollution of the state legislature; but orderly progress and performance will not be automatic, nor can the entire burden be shifted to the shoulders of the Control Boards. The industries and municipalities concerned must accept the continuing responsibility of devising the means by which requirements that are neither more nor less than each situation demands are imposed by the Boards and, in turn, must be prepared to meet upgraded requirements as the situations affecting quality of receiving waters change.

If this pattern for regulatory action is successfully applied in California, it will merit consideration in other states.

Chemically treated paper seems to be taking the bloom off the bush for the liquid or paste treatments formerly used to keep rust from ferrous metals.

FACTORY finish on these machines is perfect. This is more like it. No rust spots on the metal, and no goo to clean off," enthused Murray Angus. "Just open the crate, remove the machines, and put them right on my sales floor, ready to go."

Murray had a right to be happy. He is a dealer who handles "Shopsmiths" in Cape Town, Union of South Africa, and he had been having considerable trouble with his consignments. His last previous shipment from the San Francisco firm had been packed in a messy, paste-like coating that took him eight hours to remove. It also took quite a bit of floor space to do a thorough cleaning job, and even then the mess was spread around his shop.

"This new system of packing in treated paper is all right. Now I can start to make some money on these machines, if I don't have to spend a day's labor in cleaning them up after I get them. Especially since I've paid for them once already."

Murray has a point there, and a point well taken by industry today.

During the last war, many articles (particularly those of a military nature) made of iron or steel were covered with oily or greasy chemicals to ward off rust. And when they arrived at final destination, somebody had to spend the time to clean them off before they were useable.

During the present war, such materials are being shipped in a paper wrap, for rust prevention. Differences in time and expense are highly important. And civilian industry is finding that this new method keeps factory costs down and sales figures up.

For example, Enterprise Engine and Foundry Co., San Francisco, manufacturers of marine and stationary Diesel engines, recently finished conducting a two-month accelerated test with one of these chemically-treated papers. Here is what they did:

A time study was made in the process of packing piston rings for shipment. In this test, ten sets of rings were used, with eight rings to each set.

Their former method of rust preventive dip with a moisture barrier wrap took a total of 62 minutes. Using this chemically-treated paper wrap, the time was reduced to only ten minutes. This chart shows time consumed for each operation.

Difference in wrapping time is pres-

Since passage of California's water pollution control laws in 1949, many articles have appeared in the trade and technical press describing the administrative procedure thereby established and discussing the program from the standpoint of personnel concerned with its administration.

The new laws provide opportunity for accomplishing pollution control at least cost to the public and industry only provided it is so administered. Whether the full economic advantages accrue depends on the actual practices being developed by the Regional and State Boards under their rules and regulations for administration of the law. The California industries and municipalities owe it to themselves to participate in the discussions of procedure and policy now being conducted by the various Boards. This can best be done for industry through trade organizations.

Since W. J. O'Connell, Jr., as manager of the Western Manufacturers Bureau of Information on Industrial Water Supply and Waste Disposal, 109 Stevenson Street, San Francisco, is one who is rendering this service and represents a number of industrial groups who are carefully following the initial activities of the Boards, extensive use has been made of information furnished by him.

Don't Grease and Degrease; Use Paper for Shipping

ent because a complete set of eight rings is wrapped in one piece of chemically-treated paper, while previously each ring had to be wrapped separately in the moisture barrier paper, after dipping.

Normal drying time of four to six hours for dipped parts is not included in this chart. Only handling times are considered.

	TIME	
	Chemically-treated paper wrapper	Rust preventative dip and barrier wrapper
Dip rings.....	none	12 minutes
Cut paper	2½ minutes	10 minutes
Wrap rings	7½ minutes	40 minutes
	10 minutes	62 minutes

In addition to the time saving, Enterprise found that on volume orders one or more men could be eliminated from the packaging operation, since dipping was no longer required.

These treated papers are made in various grades, either impregnated or coated with the chemical compound that affords the rust-preventative property. Any ferrous metal part so packaged is protected against oxidation by

the invisible, non-toxic, odorless vapor arising from the treated side of the paper.

Slowly the vapor leaves the paper and inactivates the corrosive elements of air and water. That action then renders those elements harmless to iron or steel, and rust will not develop.

This treated paper is used the same as any ordinary wrapping paper for metal, or as liners and separators where metal parts are shipped in bulk. The paper should be within six inches of the surface to be protected, and no barrier should be placed between the two.

A complete package should be made in such a manner that the volatile inhibitor will be retained inside the wrapping. Packages so wrapped need not be sealed unless they are exposed to rainfall or snow.

Use of these treated papers eliminates the necessity of placing dessicants in packages. Shipments consigned to overseas destinations, even though tightly sealed, develop moisture content inside the wrapping from

condensation caused by extreme temperature changes. But this condensation too is rendered inactive as a corrosion cause, by the treated paper wrap.

Paper wrappers of this type will give protection over long periods of time, since the chemicals used are comparatively stable. Sheets of the standard wrapping paper can be stored for months at a time, with a surprisingly small loss of efficiency.

When used according to manufacturers' instructions, this paper will give protection from three months to five years, depending upon whether the item is indoors or outdoors, and what grade paper is used.

Following is a list of trade names of different varieties of this paper, and sources of Western supply:

Angier VPI, Angier Pacific Co., 55 New Montgomery St., San Francisco.

Marvellum VPI, R. M. Bracamonte, 252 Spear St., San Francisco.

Sisalkraft VPI, The Sisalkraft Co., 55 New Montgomery St., San Francisco.

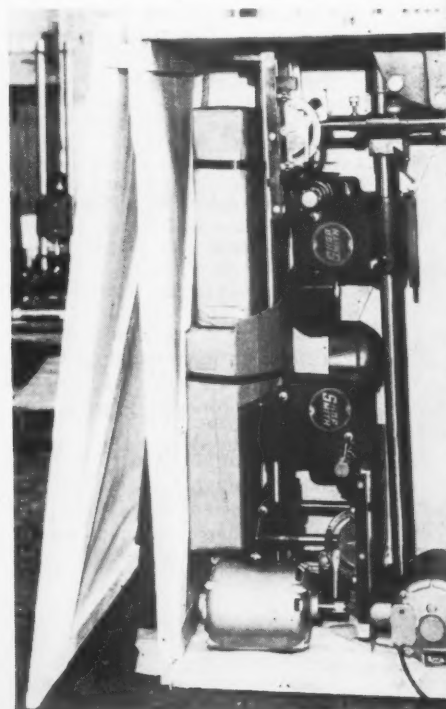
Nox Rust Vapor Wrapper, J. W. Guthrie Co., 725 Second St., San Francisco.

"VPI" is a Shell Development Co. product and trademark, licensed to firms who use that chemical in the manufacture of their chemically treated paper.

Before using any of these treated papers to protect military shipments, it is advisable that you check the military service involved to be certain that you comply with their specifications.

• Smaller parts are merely wrapped up in this chemically-treated paper, quite the same as you would wrap up anything else. Packages so wrapped do not have to be tightly sealed, nor do crates (as that on the left) unless they are going to be exposed to rain or snow. A non-toxic, odorless vapor arises from the chemicals on the paper, and that vapor is death to the elements that cause rust. Exporters (and the military services are the biggest of them) are using this method of wrapping more and more. It takes less time and space, less material inventory, and can be done anywhere.

• When shipping containers (such as this crate) are lined with commercially available chemically treated paper, iron and steel products as well as protected from rust. And when the consignee receives his merchandise, it is all clean and ready to set up for immediate sale.



Do You Control Labor Costs, Or Do They Control You?

LABOR costs and utilization of labor are not being given adequate attention in industrial plants in the West, this month's installment of *Western Industry's* cooperative survey of operating methods and systems in 211 Western plants reveals. These facts were developed through analyses made for *Western Industry* by industrial engineers from important manufacturing concerns on the Pacific Coast.

The analyses draw attention to the fact that while nearly all the plants reporting in the survey said they knew their labor costs, such assertions are contradicted in large measure by widespread failure to make use of budgets. The industrial engineers called on by

Western Industry base their statements on the assumption that the survey is properly representative of industry in the West. While the number of plants reporting from some areas is scanty, nevertheless it is the opinion of the editors of *Western Industry* that additional reports would be merely cumulative in effect.

"This apparently unsatisfactory attention to labor costs is particularly important in view of Western wage and salary rates, which are generally higher than Eastern rates for comparable work" is the observation. "Certainly if the West is to be fully competitive with Eastern products, and they frequently have direct competition, it is more than ever important that they

control and effectively utilize this substantial manufacturing expense."

Another of the engineers observes that the surprising assertion by the majority of firms reporting that they knew both their direct and indirect labor costs could easily be a "rationalized opinion," because most of the firms seem to believe that, compared with estimates, their costs are running "about right."

"Perhaps the answer may be found in the type of labor controls reported," he adds. "Most report that they do not use budgets, the indication being that other methods are employed for labor controls. Other than budgets and wage incentives, some 35 different methods are reported. Would this not indicate

Designations "Western," "Eastern" and "Mixed" indicate whether methods and systems were independently developed in the West, or formulated by eastern management or parent company, or are a combination of both. Numbers indicate number of plants.

Do you know your direct labor costs? Nearly unanimous!

Southern California			Northern California			Oregon			Western Washington		
	Yes	No		Yes	No		Yes	No		Yes	No
Western Methods....	29	...	Western Methods....	22	1	Western Methods....	26	1	Western Methods....	65	5
Eastern Methods	8	...	Eastern Methods	4	...	Mixed Methods	2	...	Eastern Methods	8	...
Mixed Methods	4	...							Mixed Methods	3	1
Eastern Washington			Idaho			Utah			Colorado		
	Yes	No		Yes	No		Yes	No		Yes	No
Western Methods....	6	...	Western Methods....	4	...		18	...	Western Methods....	5	1
Mixed Methods	2	...									

Do you know your indirect labor costs? Most of them think so.

Southern California			Northern California			Oregon			Western Washington		
	Yes	No		Yes	No		Yes	No		Yes	No
Western Methods....	28	1	Western Methods....	22	1	Western Methods....	26	1	Western Methods....	62	8
Eastern Methods	8	...	Eastern Methods	4	...	Mixed Methods	1	...	Eastern Methods	8	...
Mixed Methods	4	...							Mixed Methods	3	1
Eastern Washington			Idaho			Utah			Colorado		
	Yes	No		Yes	No		Yes	No		Yes	No
Western Methods....	5	1	Western Methods....	4	...		18	...	Western Methods....	5	1
Mixed Methods	2	...									

THIS is the sixth installment of *Western Industry's* survey, carried on in cooperation with eight universities in the West and a number of management consultants, to assemble facts concerning actual operating conditions in industry in the West.

Reports were obtained from 211 plants in California, Oregon, Washington, Idaho, Utah and Colorado through a detailed questionnaire, covering division of functions, organization charts, communications, manufacturing programs, controls and budgets.

In order to determine the comparative efficiency of industry in the West and the older industrial areas of the country, the reporting plants were designated as "Western Methods," "Eastern Methods" and "Mixed Methods," to indicate whether their systems were developed in the West, whether they operated under programs emanating from Eastern home offices, or were a mixture.

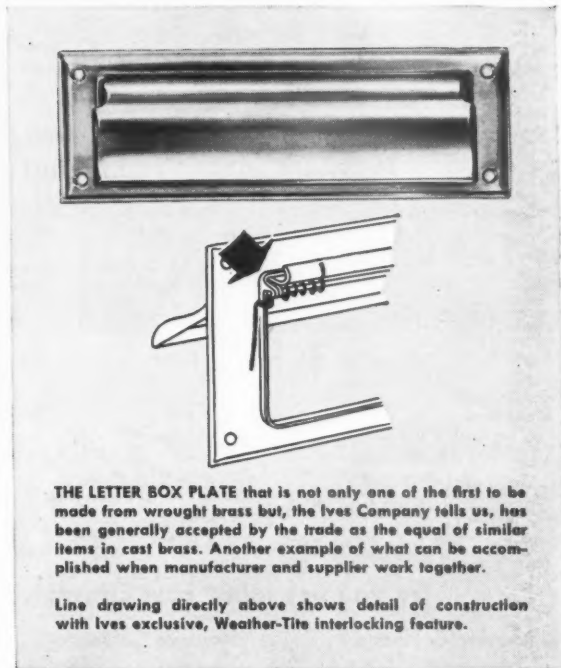
The September installment will deal with time study while wage incentives will be covered in October and quality control in November.

2 MORE EXAMPLES

how manufacturers improved their products . . .
cut production costs with the aid of
REVERE PRODUCTS and SERVICE



UPPER LEFT shows brass shell of the Rev-O-Lite as it comes from the bulging die. Without any extra finishing, which would have been necessary had shell been made of strip and brazed, shell is chrome plated as shown at lower left. At right is the completed assembly of the Rev-O-Lite ready for action on the roofs of all kinds of emergency vehicles such as police patrol cars, ambulances, fire trucks, etc. Chrome finish base is of cast zinc alloy.



THE LETTER BOX PLATE that is not only one of the first to be made from wrought brass but, the Ives Company tells us, has been generally accepted by the trade as the equal of similar items in cast brass. Another example of what can be accomplished when manufacturer and supplier work together.

Line drawing directly above shows detail of construction with Ives exclusive, Weather-Tite interlocking feature.

1. In the development of their Rev-O-Lite, a revolving warning light for emergency vehicles, the Balford Corporation, Jacksonville, Florida, found themselves faced with a production problem regarding the cylindrical shell which contains the lights. The question was; what would be the most efficient and economical way to produce this shell that measures 6" in length and is 4½" in diameter at the ends? Should it be formed from a metal strip and brazed? Could tube be used and bulged in a die? Or, should some other method be employed.

Revere, working with the design engineers of the Balford Corporation, exchanged ideas, weighed the pros and cons of various methods; experimented. They found that by using 70/30 Revere Brass Tube in a light anneal temper, it would take the bulging in the die satisfactorily and at the same time show up well as far as grain size control was concerned. By this method, complicated and costly forming operations and brazing could be eliminated; production speeded and the shell formed without any unsightly seam. Also, no extra hand finishing would be necessary before plating.

2. How can you make a letter box plate out of wrought brass and at the same time have it look like cast brass? This problem of the H. B. Ives Company, New Haven, Conn., came up while the Ives engineers were designing a new type plate employing a new method of interlocking the flap and the frame of the box to insure its being weather-tight.

Casting was ruled out as too costly and impractical to construct. If brass strip was used it had to be heavy

enough to simulate cast hardware, yet sufficiently flexible to complete a U bend on a 7" length without fracture or distortion. Also, because the finished plate would in most cases call for a natural brass finish, the stock had to be the right color.

After several consultations with Revere Technical Advisory Service and experiments in their own shop, it was suggested that Revere sheet brass of .062" thickness and of a certain temper be used. That was it! The combination of proper design and heavy gauge metal resulted in a neat but rugged appearance. The wrought construction made it possible to produce a Weather-Tite plate with exclusive interlocking feature without costly machining operations. In addition, finishing costs were reduced to a minimum.

Perhaps one of the many types of Revere Brass or one of the other Revere Metals or Alloys can help you improve *your* product—cut your production costs. Why not tell Revere's Technical Advisory Service about *your* metal problems? Call the Revere Sales Office nearest you today.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, New York

Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.

Sales Offices in Principal Cities, Distributors Everywhere.

Pacific Coast District Sales Offices in San Francisco, Seattle, Los Angeles.

that further study needs to be made of direct and indirect labor costs and controls?

"Of particular significance are the answers to the question, 'Who has charge of this work, and how are those responsible kept informed of their performance?' The responsibility for this work is centered in many different hands—relatively few who are responsible for costs or other types. This then relates back to the second study of this series—Organization Charts and

Division of Functions. (See April issue.) Both studies show that many advances must be made before a streamlined organization will result."

Indications of the survey were further analyzed by these observers as follows:

1. Knowledge of Actual Costs

Apparently the subject costs are known only in terms of total payroll, after the fact, subdivided by two classification of direct and indirect labor.

The results of the survey with respect to accuracy of estimates, and usage of cost controls and budgets, suggests that this important cost knowledge is probably not obtained in terms of costs by specific products.

2. Accuracy of Estimates and Use of Controls and Budgets

A high percent of satisfaction by the various companies with the accuracy of their labor cost estimates is indicated. This conclusion seems some-

Designations "Western," "Eastern" and "Mixed" indicate whether methods and systems were independently developed in the West, or formulated by eastern management or parent company, or are a combination of both. Numbers indicate number of plants.

Compared with advance estimates, your labor costs run higher, lower, or about right? 76% said "about right," but is this a "rationalized" opinion?

Southern California		Lower	1	Higher	11	Idaho	
<i>Western Methods</i>		<i>Eastern Methods</i>		Lower	4	<i>Western Methods</i>	
About Right	24	About Right	3	Depends on orders.....	1	About right	4
Higher	3	Higher	1	Can't determine	1		
Lower	2	Oregon		<i>Eastern Methods</i>			
Average	1			About right	6	Utah	
<i>Eastern Methods</i>		<i>Western Methods</i>		Higher	1		
About Right	6	About Right	10	Lower	1	About right	13
Lower	1	Higher	4	<i>Mixed Methods</i>		Higher	3
<i>Mixed Methods</i>		Lower	1	About right	4	Lower	2
About Right	4	Fluctuates	1				
Northern California		<i>Mixed Methods</i>		Eastern Washington		Colorado	
<i>Western Methods</i>		Higher	2	<i>Western Methods</i>		<i>Western Methods</i>	
Varies		Western Washington		About right	4	About right	
About Right	9	<i>Western Methods</i>		<i>Mixed Methods</i>		Lower	
Higher	6	About right	45	About right	1	Unable	
				Variable	1		

Do you use labor cost controls? Only 54% of the plants said Yes.

Southern California			Northern California			Oregon			Western Washington		
	Yes	No		Yes	No		Yes	No		Yes	No
Western Methods....	20	9	Western Methods....	7	1	Western Methods....	15	12	Western Methods....	25	46
Eastern Methods	6	1	Eastern Methods	3	1	Mixed Methods	2	...	Eastern Methods	5	3
Mixed Methods	3	...							Mixed Methods	3	1
Eastern Washington			Idaho			Utah			Colorado		
	Yes	No		Yes	No		Yes	No		Yes	No
Western Methods....	4	1	Western Methods....	1	3		10	8	Western Methods....	5	1
Mixed Methods	2	...									

Do you use wage incentives to control costs? Only 35% said yes.

Southern California			Northern California			Oregon			Western Washington		
	Yes	No		Yes	No		Yes	No		Yes	No
Western Methods....	15	12	Western Methods....	7	19	Western Methods....	6	15	Western Methods....	16	38
Eastern Methods	3	5	Eastern Methods	1	3	Mixed Methods .....	...	1	Eastern Methods ....	...	6
Mixed Methods	4	...	Mixed Methods	1	...				Mixed Methods	1	3
Eastern Washington			Idaho			Utah			Colorado		
	Yes	No		Yes	No		Yes	No		Yes	No
Western Methods....	...	4	Western Methods....	...	1		6	10	Western Methods....	4	2
Mixed Methods	1	1									

Do you use budgets for this purpose? 54% employ this method.

Southern California			Northern California			Oregon			Western Washington		
	Yes	No		Yes	No		Yes	No		Yes	No
Western Methods....	17	10	Western Methods....	9	11	Western Methods....	10	10	Western Methods....	23	42
Eastern Methods	6	1	Eastern Methods	3	1	Mixed Methods	1	1	Eastern Methods	5	1
Mixed Methods	3	...	Mixed Methods	1	...				Mixed Methods	2	2
Eastern Washington			Idaho			Utah			Colorado		
	Yes	No		Yes	No		Yes	No		Yes	No
Western Methods....	3	2	Western Methods....	1	...		7	10	Western Methods....	5	1
Mixed Methods	1	1									

what inconsistent, in view of the surprisingly little use of budgets and cost controls. These latter two devices certainly are the logical tools for developing estimates and appraising the extent to which estimates are satisfactorily realized.

The survey supplies the contradictory results of illustrating 76% satisfaction with the accuracy of estimates as reported by 202 companies, but on the other hand only about 54% of the companies indicated use of cost controls or budgets. There was no particular indication in the survey as to follow-up means for appraising and correcting results disclosed by estimates and budgets.

3. Wage Incentives

The survey indicates that Western companies make remarkably little use of wage incentives. Certainly in this respect they are overlooking an excellent opportunity for standardizing and controlling labor costs, as well as reducing both direct labor costs and unit costs. In order that Western companies might more effectively utilize high priced Western labor and reduce labor costs and unit costs to enhance their competitive position, the need of increased use of wage incentives is clearly indicated.

4. Analysis by Areas and Methods of Management

The Southern California area seems more progressive in its management thinking to the extent that satisfaction with estimates, and use of budgets, controls and wage incentives generally runs high as compared with other areas. Northern California rates comparatively high in the use of cost control devices, but the data seems at odds with the other replies pertaining to accuracy of estimates, and use of budgets and incentives.

Eastern method managements appear more advanced in their techniques with respect to the use of cost controls and budgets although satisfaction with the accuracy of estimates is about the same under any of the three management methods.

Data on the use of incentives shows a higher percent usage in the case of mixed methods. However, the entire picture of usage is so low and the sample of Eastern and Mixed methods so small that conclusion as to progressiveness by management method is indefinite.

5. Direct Labor Costs

Generally all locations, either by Eastern, Western or Mixed methods, indicated knowledge of direct labor



Standard Inclinebelt Conveyor as installed at Dewberry Engraving Company, nationally-known manufacturer of quality engraved stationery.



Conveyor **EARNs** its ORIGINAL COST in First 3 Months

Dewberry Engraving Company, Birmingham, Alabama, nationally-known manufacturer of quality engraved stationery, writes us as follows:

"We installed one of your belt conveyors about two years ago. It has never required \$1.00 in repairs and has worked perfectly every day. We operate 3 shifts, 24 hours a day and produce the largest quantity of engraved stationery in America. Your conveyor saved us its original cost in the first three months of operation. We have moved tremendous loads, far above the capacity you advise — without once stalling the conveyor. We do not see how we could operate without it."

Conveyors cut costs — speed operations — can do the same for you. Standard builds conveyors to handle "packages" of all types — bags, boxes, bundles, barrels, drums, cans, cases, cartons. Available in light, medium, or heavy-duty types — portable or stationary — systems, sections, self-contained units — power or gravity fed — yield remarkable savings in time, money and manpower.

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Write for Standard's General Catalog No. WI-80. Tell us what you want to handle or type of conveyors on which you want information.

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— Spiral Chutes — Pneumatic Tube Systems

If the "yes" answers are intended to signify knowledge of proper and accurate allocation of direct labor costs by products manufactured, it would be concluded that the managements are exercising considerable care in controlling such costs (in view of the fact that it is not unusual for 40% to 50%

of a company's expense to be in wages and salary, exercise of considerable skill and care in controlling labor costs is warranted). However, the replies to the question "do you use labor cost controls" indicate that the use of such controls is not as extensive as would be desired. Accordingly, we may conclude that the "yes" answers must refer mainly to knowledge of labor costs in total after the fact of expenditure.

The same general comments with regard to Direct Labor Costs apply here. Again, it is noted that Western Wash-

Designations "Western," "Eastern" and "Mixed" indicate whether methods and systems were independently developed in the West, or formulated by eastern management or parent company, or are a combination of both. Numbers indicate number of plants.

Do you use other methods to control labor costs? Here are some of the systems.

[illegible]

Who has charge of the labor cost control work, and how are those responsible kept informed of their purpose? Take your choice from these answers.

Southern California	Northern California	Mixed Methods	Idaho
<i>Western Methods</i>	<i>Western Methods</i>	Supervisors and General	<i>Western Methods</i>
Owner 2	Accountant 5	Manager 3	Chief Accountant 1
Treasurer to Supervisors	Industrial Engineer 1	Plant Manager responsible for information by weekly reports..... 1	
to General Manager.			Utah
Vice President and Engineer.	<i>Eastern Methods</i>		Office personnel—conference.
Standards Department in	Cost Engineering 2		Economic research.
Cooperation with	Comptroller 1		General Superintendent—
Personnel.		Oregon	Estimate of Superintendent.
Auditor.	Western Washington	<i>Western Methods</i>	General management at home
Corporation Secretary.		Production Superintendent 5	office.
Production Superintendent.	<i>Western Methods</i>	Accounting Reports 2	Individual factory manager.
Superintendent's Weekly	Executive management..... 21	Assistant to Owner..... 2	Plant manager and chief
Reports.	Cost Accountant and	Manager 1	accountant—P. and L.
Superintendent.	Production Manager..... 6	Auditor and Plant Mgr..... 1	statement.
Production Manager.	Accounting 6	Personnel and Gen. Mgr..... 1	Chief Cost Accountant.
Industrial Engineer.	Production Department.... 4	I. E. and Personnel..... 1	Comptroller—weekly reports.
Standards Department and	Superintendent 3	Production Manager	Assistant Superintendent.
Personnel.	Department heads 3	(Bi-weekly tabulation).. 1	Production Superintendent—
Cost Accountant and	Controller 1	Cost Department 1	charts and tabulated costs.
Department Heads.	Office Manager 1		Superintendent—work ticket.
	Production Control 1	<i>Mixed Methods</i>	Comptroller makes breakdown of costs.
	Yard Superintendent..... 1	Manager 1	Supervisory—engineering and cost accountant.
<i>Eastern Methods</i>	<i>Eastern Methods</i>	Production Department	
Plant Manager.	Supervisors Conference.... 1	and Department Heads.. 1	
General Auditor.	Shop Superintendent	Eastern Washington	Colorado
Office Manager.	and Engineer 1	<i>Western Methods</i>	<i>Western Methods</i>
	Shop Superintendent..... 1	Shop foreman 1	Monthly Reports 1
<i>Mixed Methods</i>	Manager with home office	Accountant 2	Accounting Department ... 1
Factory Manager.	approval 1		I. E. and Operating
Industrial Engineer.	Accounting and shop	<i>Mixed Methods</i>	Departments 1
	supervisors 1	Treasurer confers..... 1	

ington, Western methods, indicates a surprisingly large number of instances wherein no knowledge of such labor costs is obtained. It is further noted that essentially the same distribution of figures regarding "yes" and "no" apply as in (1) above; there were only three exceptions to citing the same information for indirect labor costs as given for direct labor costs.

7. Actual Labor Costs Compared With Advanced Estimates; Are They Lower, Higher or About Right?

It is to be noted that wherever there is a reasonable size sample, satisfaction with accuracy of standards or estimated is about the same at a given location under either Eastern or Western methods. Also, on the overall composite, there is little difference in results by method (range of satisfaction is 75% to 79%). However, when entire areas are analyzed (for reasonable size samples) it is noted that accuracy of standards or estimates are significantly more satisfactory in Southern California (i.e., approximately 85%).

Northern California's performance in this sense, is the poorest among locations having reasonable size samples. However, it is to be noted that Northern California is one of the leaders in use of labor controls (approximately 83%), while Southern California indicates substantially lesser use of such controls. Similarly, Western Washington, having apparently better success than Northern California is establishing accurate standards or estimates, is quite lacking in comparison with regard to the use of labor controls. The data appears inconsistent in this regard.

8. Use of Labor Controls

This is one of the more significant questions in the survey since the use of such controls is directed at regulating the important labor expenditure previously referred to.

On an area basis Northern California, Eastern Washington and Colorado appear to make more use of controls, with Western Washington and Idaho making least use of such control (Idaho sample is probably too small to be significant). Analysis of "use of controls" by type of method indicated that Western methods appear to make least use of such controls even when excluding Western Washington results.

Mixed methods indicate about 91% usage although the sample is quite small and therefor questionable. The Eastern method of usage of about 74% appears more significant and highlights a substantial difference with the

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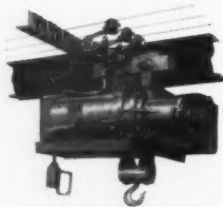
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From the new "J" hoist, with its 1/4-ton capacity, to 25-ton cranes, R & M manufactures a wide range of versatile handling equipment for the toughest work. If it's a job for a hoist, crane or winch . . . Take it UP with R & M.

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Western methods usage of 53%. Accordingly, it would appear that Western method companies are comparatively negligent in controlling this substantial expense item.

Again, the inconsistencies and findings regarding Northern California and Colorado as compared with their reported success in estimating labor costs should be noted. Further inconsistency is noted with Southern California's higher percent accuracy in forecasting, but comparatively lower usage of controls. It would appear that there should be a correlation between the use of budgets and control techniques as related to preparation of estimates and their accuracy.

9. Budgets

The use of budgets for labor costs is greatest in the Southern California area (excepting the smaller Colorado sample). By and large, the use of budgets appears quite low on a percent basis (usage on total overall basis equals 54%) particularly, in view of the relatively heavy response (202) to the question on estimates.

Plants using Eastern methods showed a significantly greater use of labor cost budgets. The increased usage of budgets by Eastern methods over Western methods (82% versus 50%) is particularly significant. The same conclusion is noted here as in the case of "usage of controls," that Western methods companies are remiss by comparison in the matter of controlling and regulating labor expenditures.

Again, with reference to the significance of the expenditure under consideration, it is surprising that it receives so little attention through the avenues of cost controls and budgets (such devices or techniques each showed only 54% usage on the overall average among the companies surveyed). Accordingly, we must conclude from the sample surveyed that only about one-half of the companies reporting take appropriate steps to measure and control this important expenditure.

10. Wage Incentives

The over-all use of wage incentives is quite low, averaging about 35% for all locations by all methods. The data indicates that the greater percentage of usage is found in companies having mixed methods (58%). However, this sample is relatively small and probably the Western method figure of 35% use of incentives is more representative. Eastern method plants indicate use of incentives in 22% of the instances. However, this sample is also small and the results are questionable as to their significance.

The most important fact to be observed is that the Southern California area companies utilize incentives in 56% of the instances. This figure is substantially in excess of the over-all average (Colorado indicates a usage of 67%; however, the sample is quite small). The comparison between Northern and Southern California is again significant in that Northern California's usage of incentives is only 29%. The area appears considerably behind its Southern neighbor in the use of this cost reducing device which also serves to control direct labor costs. Utah with a usage of 38% is better than the over-all average, while Western Washington, which has a large sample of data, indicates a lower usage of 27%. The data applying to Eastern Washington, Idaho, and Colorado do not appear particularly significant by reason of the size of the sample.

11. Other Methods

The listings provided under the subject category do not lend themselves to drawing significant conclusions. Actually, many of the items quoted appear to represent either:

1. Local terminology for budgets or standards of labor cost expectancy that are used to measure performance of actual costs.
2. The method utilized in accruing or compiling actual costs.
3. Various cost control devices or programs in effect for reducing costs.

12. Who Has Charge of This Work, Etc.

The data accumulated under this category indicates considerable variation in the assignment of responsibility for accumulating, controlling or improving labor cost performance. Presumably, such varied assignment of responsibility results from the size of the plants surveyed and the particular forms of organization utilized to accomplish the many necessary management activities.

Apparently considerable use is made of groups, such as Industrial Engineering, standard departments, cost accountants, superintendents, engineers, etc., for the purpose of establishing estimates and standards of labor cost performance. Accounting groups are probably uniformly responsible for accumulating actual results as compared to estimates or budgets and advising those concerned accordingly. Some of the positions listed apparently pertain to executive management use of the information to appraise performance and to establish the objectives for effective management of the enterprise.



"For want of a nail, the shoe was lost."

—Ben Franklin's Almanac, 1757

Keep thy costs under constant scrutiny, lest a competitor catch thee napping in ye Buyer's Market.

—Acme Steel's Notebook, 1950

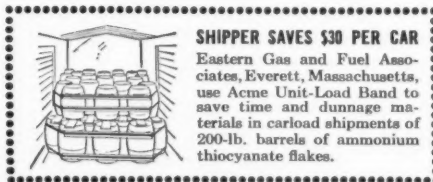
Where are today's "horseshoe nails" in your business, Mr. Department Head?

Aren't they those little items of cost, so often overlooked, that turn what ought to be a profit into a column of red ink?

Helping you spot those cost items and nail them down for keeps is where Acme Steel really shines—particularly in your shipping room, in packaging, in materials handling within your plant.

Nine out of ten companies can benefit from greater efficiency, thriftier practices, and cost-cutting Acme Steel Methods when one of our sales engineers starts applying what we have learned to do with Acme flat steel strapping, Acme stitching machines and wire, and other Acme Steel products.

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THERE'S LIFE IN THE OLD CASE YET!

Yes, you can add months of profitable use to old beverage cases. Reconvert with Acme Bottle Box Band or Acme Rolled Edge Box Strap. It's a quick, easy way to thrift!

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☐ **Product Assembly**—"Acme-Morrison Metal Stitchers"—for savings in fastening metal-to-metal or metal-to-other materials.

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Soft Water:

The Answer to Some Hard Plant Problems

Dairies

Soft water is almost a necessity for the proper washing of bottles, cans, and equipment. This prevents the formation of milkstone and scale on

equipment. This eliminates the necessity of acid wash for cans and equipment and makes possible the use of smaller quantities of less expensive washing compounds that do a more

By JOHN F. CRANE

Allied Industries
San Diego, California

Concluding installment

efficient cleaning job. Soft water eliminates the calcium curd which harbors virulent bacteria and aids in the maintenance of properly sterile conditions.

Canneries

If those vegetables which contain protein and starches, such as wheat flour, beans, and peas, are cooked in water containing calcium and magnesium compounds, an indigestible protein is formed, and the vegetables become tough and rubbery. This effect will also be produced when vegetables of this type are canned in hard water. The reaction which takes place indicates that peas and beans are, in a sense, "water softeners." During the process of softening the water, these vegetables take up hardness. Generally, the degree of hardening has been found to be directly proportional to the amount of calcium and magnesium present in the water. Calcium compounds have a greater hardening effect and are usually more plentiful than magnesium compounds. Softened water should be used for canning vegetables of this type. In addition, it is important that any salt brine which is used in the canning process be made from a salt which contains as little calcium and magnesium as possible to avoid the hardening effect. In some canneries, the brine is actually softened by the lime-soda process to reduce undesirable hardness due to calcium and magnesium in the brine. This makes possible the use of a cheaper salt. The use of hard water in canning beets results in an unattractive white coating on the surface of the beets. The following vegetables should be cooked or canned in soft water for best results: Navy beans, California pink beans, Jap pinto beans, soy beans, red kidney beans, ripe lima beans, California black eye beans, beets, and peas.

Physicians and Dentists

Many physicians and dentists have found that softened water is very desirable in their offices in the improvement of cleanliness. Softened water is desirable for the prevention of calcium and magnesium scale in sterilizing equipment, or where water is heated or evaporated and the disposition of scale might be a factor. Many skin rashes

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and diseases have been cleared up and cured with soft water as the beneficial medium where other medicines have failed. The calcium or lime of the hard water combines with the palm oils in the skin to form insoluble compounds or a layer of scum over the entire surface of the skin which is removed thoroughly and cheaply with softened water only.

Mortuaries

Morticians and embalmers purchase embalming fluid in a concentrated form and dilute it with hard water. Hard water in the fluid causes a deposition on the sidewalls of the arteries, veins, and capillaries of either coagulated blood or calcium deposits. Better drainage is secured by the use of soft water in embalming fluids. In addition, the cosmetic effect on the subject is vastly improved, since bathing and shampooing are part of the service.

Industrial Installations

Many installations use soft water on the "hot" side only. This provides less installation cost and economical use if the operator is careful not to mix the soft water with the cold side.

17 parts per million = 1 grain of water hardness. Softeners are usually figured to handle a certain grain capacity depending on the hardness of the water. For example: a 20,000 grain capacity water softener will deliver 1,000 gallons of soft water in 20 grain hard water. A 20,000 grain capacity water softener will deliver 500 gallons of soft water in a 40 grain hard water, etc. It has been found that a smaller softening unit can be more beneficially operated than a larger unit. The advantage of the larger unit is an extended period between regenerations. A unit which is regenerated oftener is a more efficient unit and the zeolite bed is constantly in a better condition. The smaller units are recommended therefore.

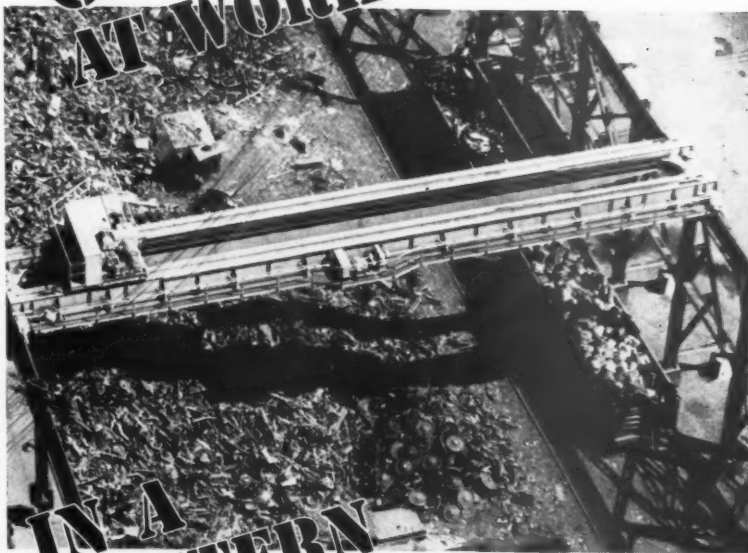
Regenerating Cost of Chemicals Involved

Grain Capacity NCR of Softeners (Zeolite)	NaCl Lbs. Required	Gallons per Cycle delivered Based on 20 Grain Water
20,000	10	1,000
35,000	20	1,750
60,000	30	2,000
90,000	45	4,500
180,000	80	9,000
300,000	150	15,000
1,500,000	375	75,000

Grain Capacity of Demeralizers	NaOH/Cycle Flake—lbs.	H ₂ SO ₄ /Cycle 66Be—lbs.	Gallons per Cycle Based on 10 Grain Water
75,000	1.5	3	609
150,000	3.0	6	1,218
300,000	7.5	15	3,046
800,000	20.0	40	8,121
1,600,000	40.0	80	16,242

Continued on next page

ANOTHER EDERER CRANE AT WORK...



IN A WESTERN STEEL MILL

This EDERER 10-ton crane serves the scrap yard of one of the West's large steel mills. As in so many Western industries, the crane was custom-built by EDERER to the exact job requirements of this mill.

It is this custom-building ability—plus plant capacity—that has made EDERER one of the largest crane manufacturers on the Pacific Coast with "know-how" and facilities to build any type of crane for any industry. This may be the answer to your materials handling requirements.



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Portable or stationary units may be designed for any size required. A double unit zeolite softener is practical for continuous operation. This consists of a regenerating brine tank and two independent water softening units so that one unit may be supplying soft water while the other unit is being recharged or regenerated by the brine tank solution. A period of at least two hours and preferably 12 hours is recommended to get the maximum benefit from the regenerating brine.

Plants may be beneficially utilizing soft water with portable units in many cases where permanent installations

would be too costly. Small portable units may be mounted on dollies and moved from tank to tank providing new savings to processing operators which are at the present time unthought of with respect to chemicals used and water required to do an equivalent job. A central brine tank is located where the softeners may be regenerated or recharged for another use cycle.

Batteries

Demineralized or de-ionized water should be used. Zeolite softened water is not recommended.

Car Washing

An important use of soft water is in car washing. The absence of soap curd assures freedom from streaks after drying and results in a more brilliant lustre. Many car washing establishments claim great labor savings and less wiping is necessary. Chamoising can be reduced or eliminated.

Paper mills require that a water should not contain iron, since this stains the paper, and an excess of calcium and magnesium is to be avoided because they tend to precipitate the resin soaps which are used in sizing the paper.

Beauty parlors save on shampoo costs and labor in cleaning hair with soft water that is free of soap curds.

Cafeterias use soft water to a great advantage in cooking and dish washing. Savings are shown in amounts of tea, coffee, sugar. Soup and water cooking all taste better and possess more food value. Soft drinking water is usually better than bottled water since in many cases bottled water is harder than tap water.

Course in Quality Control

An intensive course in quality control by statistical methods will be offered in the Rocky Mountain region this summer, August 14-25, on the University of Colorado campus.

Teaching staff of the course will include such outstanding authorities as Dr. Lloyd Knowler of Iowa University, Dr. Mason Westcott of Northwestern University, and Prof. John Henry of Illinois University in addition to local faculty members and experts from industry. This course is open to production and management personnel.

Although the techniques used in statistical quality control are based on complicated mathematics, the methods themselves and the application of them require very little mathematical training. Many cost-saving benefits have been obtained by supervisory personnel attending such ten-day courses in the past.

This University of Colorado course will be limited to sixty participants, who may live in University housing. For those who bring families regular vacation accommodations are available in the city of Boulder. Reservations should be made as early as possible.

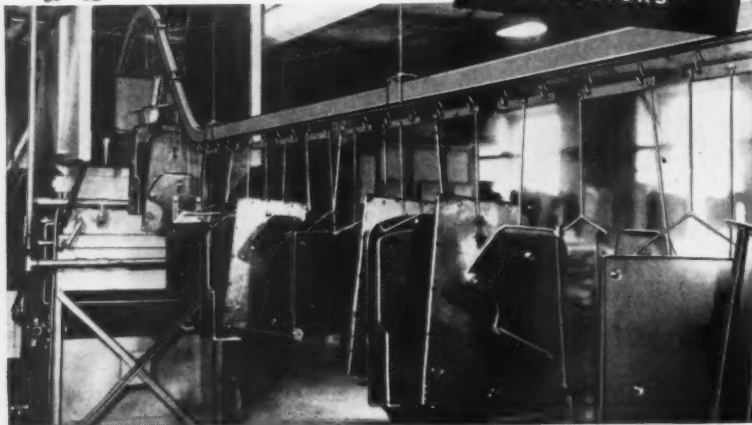
Charge for the ten-day course is \$100, including instruction and all texts and materials. For further information write Dean C. L. Eckel, University of Colorado, Boulder, Colorado.



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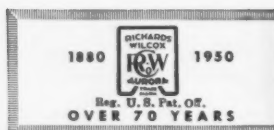
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National Study of Arbitration Preferences Shows New Slants

ANATION-WIDE study of arbitration preferences reported by Edgar L. Warren, director of the Institute of Industrial Relations at U. C. L. A., reveals some interesting slants. In his own opinion, fact-finding boards should not be set up unless they make recommendations, otherwise public opinion has no opportunity to crystallize.

Some 2,000 questionnaires were sent out, and preferences between individual arbitrators and tripartite boards proved to be fairly evenly divided for contract cases, with employers leaning toward the former and unions toward the latter. But tripartite boards are in disfavor all around for grievance cases. The returns were as follows:

	Contract cases		Grievance cases	
	Single	Tripartite	Single	Tripartite
Arbitrators	90	98	166	41
Unions	41	49	77	33
Employers	53	48	119	49
All	193	195	362	123

More arbitrators than employers, and more employers than unions, voted on ad hoc arbitrators vs. permanent umpires, with arbitrators overwhelmingly in favor of the latter while employers plumped somewhat less strongly for the former. Employers felt less attention would be paid to precedent by a special arbitrator called in just for the occasion, and that services of an expert on a particular subject could thus be obtained.

Familiarity With Problems

The argument for the permanent umpire is that you can get familiarity with the problems of an industry, uniformity and responsibility, and Mr. Warren's report is that there is greater satisfaction over a period of time with this method. More and more companies are coming around to the idea of having men available for arbitration on a per diem basis. The vote on the question was as follows:

	Permanent	Ad hoc
Arbitrators	146	47
Unions	49	59
Employers	60	104
All	255	210

As to whether the arbitrator should assist in working out the submission agreement, the vote was heavily in favor, as follows:

	Yes	No
Arbitrators	171	48
Unions	82	21
Employers	140	25
All	393	94

Lawyers or No Lawyers?

On the matter of legal representation, arbitrators and employers were strongly in favor, unions somewhat against. Mr. Warren's opinion is that employers probably favor retaining lawyers because the union men may be international representatives and therefore very expert. His feeling is that if the parties are trying to live together in harmony, they will do better without lawyers, although sometimes non-lawyers are more legalistic than the lawyers themselves. The survey showed the following:

	Yes	No
Arbitrators	145	79
Unions	42	65
Employers	113	57
All	300	201

The union vote was a tie on taking stenographic record of proceedings, with arbitrators and employers in favor of it. The objection, in Mr. Warren's opinion, is that it slows up procedure and tends to make people talk for the record rather than for settlement. Replies to the questionnaire were as follows:

	Yes	No
Arbitrators	123	100
Unions	56	56
Employers	119	54
All	298	210

Everyone seems to be in favor of avoiding social relations between the two parties, although they do socialize in the case of the Amalgamated Clothing Workers. The vote was as follows:

	Yes	No
Arbitrators	197	30
Unions	77	31
Employers	137	33
All	411	94

Legal rules of evidence failed to register much favor, as the following figures show:

	Yes	No
Arbitrators	21	211
Unions	20	93
Employers	60	114
All	101	418

Employers alone were opposed to mediation in arbitration, favoring specific settlement, in the belief that they have done all the trading they can beforehand. Here the vote stood:

	Yes	No
Arbitrators	131	89
Unions	72	41
Employers	56	114
All	259	244

Professionals Win

As for choice of arbitrators, the professional arbitrators surprisingly romped in first, with attorneys and professors poor seconds and judges trailing still further behind. The professors were heavily dinged by the employers. The figures were:

First preferences—sources by profession				
	All	Arbitrators	Unions	Employers
Professional arbitrators	240	89	68	83
Professors	68	36	22	9
Attorneys	70	26	5	39
Judges	46	12	4	30
Other	29	7	10	12

Type of agency to do the arbitrating resulted as follows:

First Preference—sources by Agency				
	All	Arbitrators	Unions	Employers
Fed. Med. & Concil. Serv.	95	30	36	29
Amer. Arbitration Assn.	77	29	10	38
State	16	10	3	3
Parties	262	108	60	94
Other	14	4	1	9

Opinions as to proper costs of arbitration, on a basis of daily fees plus expenses, ranged from \$200 a day down to the arbitrator working "for free," averaging out as follows:

	Contract Cases	Grievance Cases
Arbitrators	95.40	76.00
Unions	67.54	56.99
Employers	88.62	74.99
All	88.10	71.94



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THE WEST ON ITS WAY

ALASKA

NEW STEAMSHIP COMPANY FORMS—Seattle Steamship Co., a new concern, enters the Alaska trade between Seattle for Yakutat, Seward and the Aleutian Islands, having been low bidder on the mail route from Seward to Aleutian ports. Monthly sailings will be made from Seattle.

HAWAII

PACIFIC TRANSPORT INAUGURATES HAWAIIAN-PACIFIC COAST SERVICE—Pacific Transport Lines, Inc., expects to begin monthly freight-passenger steamship service between San Francisco-Los Angeles and Hawaii in the immediate future. Its vessels will call at Honolulu enroute to the Orient and return.

ARIZONA

REFRIGERATION EQUIPMENT COMPANY GROWS—Pacific Western Enterprises, Tempe, manufacturers of refrigeration equipment, begins selling \$300,000 more stock in expectation of its anticipated growth. At present 31 persons are employed, with a payroll of \$100,000. Within a year it is expected more than 100 persons will be employed with a yearly payroll of \$400,000. A phoenix location is now being sought.

CALIFORNIA

METAL PRODUCTION CO. MOVES—Holga Metal Production Co., makers of steel filing cabinets and television chassis, moves into its recently-purchased San Fernando Valley plant, and gives up its former location at Burbank. The company expects the move will result in a 50% increase in production, and approximately 100 new employees have been hired.



Airview of Colgate-Palmolive-Peet plant, Berkeley.

COLGATE-PALMOLIVE-PEET COMPANY TO EXPAND—Modernization and expansion of its West Coast manufacturing plant located at 7th and Carlton streets, Berkeley, is under way by the Colgate-Palmolive-Peet Company. Two new buildings have already been completed, including a new office building and Toilet Article plant, a new plant for the manufacture of Colgate's famous synthetic detergents—Vel and Fab, a Dispensary building, and an extension to the Toilet Article warehouse.

RE-ENTERS CANNING BUSINESS—Paul Parrish, Berkeley, re-enters the canning business with lease of Marlo Packing Company,

THE WEST ON ITS WAY

San Francisco, facilities at Decoto, previously known as Joseph Pearce Canning Co. Parrish's first pack will be apricots.

PACKING COMPANY FORMS—Cal-Linda Packing Co., Morgan Hill, forms headed by Vincent C. Giordano, formerly head of Clara-Val Packing Co., to process dried fruits, juices, etc.

\$500,000 BUILDING FOR CONSOLIDATED ENGINEERING—June 21st marked the beginning of the Consolidated Engineering Corporation's new plant on the Hastings Ranch site, near Pasadena. Covering 66,000 square feet, the structure is scheduled for completion about January 1, 1951.

HOFFMAN RADIO LEASES L. A. BUILDING—Hoffman Radio Corporation leases an 85,000 square foot building in Los Angeles to be used for final assembly of television. This addition will relieve congestion in its cabinet plant. The new plant, together with a 20,000 square foot plant acquired earlier this year for Government work, will boost its production capacity by 50%.

ALLIANCEWARE, INC., ACQUIRES PLANT SITE—Allianceware, Inc., makers of steel porcelain-enameled bathtubs, washing machine tubs, sinks and lavatories, plans to build a new plant at Colton, to increase substantially its manufacturing facilities. The plant is expected to be in operation by the end of this year.

WYANDOTTE CHEMICALS PURCHASES L. A. CO.—Wyandotte Chemicals Corporation, producer of industrial chemicals and cleaning and sanitizing compounds, purchases the Pacific Chemical plant of the American-Marietta Company of Los Angeles. The property will be revamped to provide a Pacific Coast manufacturing unit to serve Wyandotte branches which have functioned for a number of years in Los Angeles, San Francisco and Seattle.

\$790,000 EXPANSION FOR PACKARD-BELL—Packard-Bell Company plans a \$790,000 expansion program at Los Angeles, which will boost its television and radio production 50%. Plans include a new cabinet factory, a new metal die works building and a new factory for production and finishing facilities. When completed, about 250 persons will be employed.

WARNER-HUDNUT OPENS WESTERN OFFICES—Warner-Hudnut Co., 2340 Eastern Avenue, Los Angeles, opens a new \$500,000 office and warehouse building as its Western offices. The modern-design building is the first part of a multi-million-dollar building project now under way. The new offices will be under the supervision of vice-president Henry R. Herold.

PAPER BOX CO. TO LOCATE IN STOCKTON—Delta Paper Box Company, a new manufacturing concern, establishes a plant at 939 E. Church street, Stockton. The company will manufacture set-up paper boxes and folding paper boxes for the dry goods and retail trade, and distribution will be made throughout northern California and Nevada. The annual payroll is expected to reach \$75,000.

\$650,000 FOOD PLANT BURNS—The Ice Sickle Frozen Food plant, 1315 Hamilton Ave., Fresno, burns at an estimated loss of \$650,000. The building and equipment were valued at \$200,000 and more than \$400,000 worth of berries and other foods being processed were destroyed.

RIVERBANK CANNING CO. SELLS—An eastern group purchases Riverbank Canning Co., Riverbank, and changes its name to Madonna Foods, Inc., and tomato paste, canned fruits, vegetables and tomato products will be distributed under that label. Martin L. Morici, former sales manager of Herschel California Fruit Products Co., named general manager, with headquarters at Riverbank.

\$5,000,000 EXPANSION FOR LOCKHEED—Lockheed Aircraft's entry into jet transport production calls for a \$5,000,000 expansion program already under way. The new factory building will parallel the present final assembly line on Hollywood Way, and together with machinery and accessories, will raise the company's investment for new equipment and facilities to \$2,500,000 during 1950.

CALSTRIP EXPANDS—California Cold Rolled Steel Corporation, 7140 Telegraph Road, Los Angeles 22, manufacturer of cold rolled strip, purchases an additional 3.5 acres adjoining their present site. Plans are being drawn for an addition to its office, the construction of which begins immediately.

HELICOPTER OPERATION APPROVED—The Board of Harbor Commissioners approves an application for helicopter operation from air, railroad and highway carriers direct to shipside at the new \$6,000,000 Matson passenger-cargo Marine Terminal, Berths 195-

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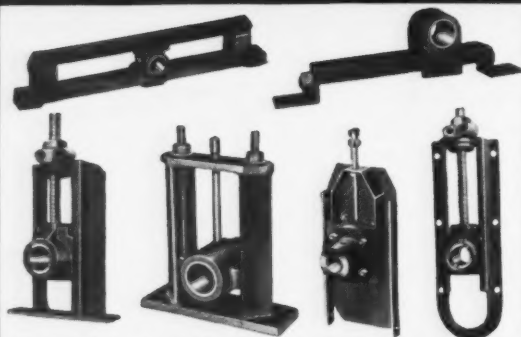
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THE WEST ON ITS WAY

198, Wilmington District, Los Angeles Harbor. The Board also awards a contract for construction of the concrete and timber wharf dock at the Matson location to the Pugh Construction Corporation, San Pedro, at a cost of \$782,800. It is expected the 2,200 foot long wharf will be completed by July 1951.

PONTUSCO CORP. BUYS CONCRETE PIPE CO.—Pontusco Corporation, Burlington, N. J. and New York, N. Y., buys United Concrete Pipe Corporation of Baldwin Park.

SANTA CLARA SITE FOR UNDERWRITERS LABORATORIES, INC.—Underwriters Laboratories, Inc., purchase a seven-acre site in Santa Clara on Scott Lane, and will erect a modern plant to cost several hundred thousand dollars. The company plans a 100-year program of growth and expansion, and its first building in Santa Clara will be only one of many to follow. West Coast headquarters for the firm, presently in San Francisco, will move to Santa Clara.

REICHOLD ACQUIRES NOBELL RESINS—Reichhold Chemicals, Inc., acquire Nobell Resins Co., Azusa, and will operate in the future as RCI's Pacific Southern Division under the supervision of M. W. Reece, vice-president in charge of West Coast operations.

NOMA ELECTRIC OPENS BURBANK PLANT—Noma Electric Corporation opens its first West Coast plant in Burbank. The leased 30,000 square foot factory will produce all electronic mechanisms for the company's new talking doll. About 200 persons ultimately will be employed.

SUNRAY OIL CO. REFINERY DAMAGED BY FIRE—The Santa Maria refinery of Sunray Oil Company suffered heavy damage by flames and explosion which resulted in the death of two employees. Rebuilding is expected although little of the \$1,000,000 refinery is salvageable.

ROOF TOP PASSENGER HELIPORT FOR PACIFIC MUTUAL—Pacific Mutual Life Insurance Co. plans a roof top passenger heliport on the roof of its 12-story building in Los Angeles, and lease it, along with a top story passenger lounge, to Los Angeles Airways, Inc. Present plans call for a port area of from 17,000 to 29,000 square feet and federal approval of the project is expected soon.

ANAHEIM SITE FOR PAINT SOLVENTS MANUFACTURER—The Neville Company, Pittsburgh, Pa., manufacturers of synthetic resins and paint solvents, purchases 12-acres of land on Patt street in Anaheim and plans to erect a new plant, office and tank farm. Immediate plans call for development of approximately half of the property, the balance to be improved within a year when the lease expires on the present Western plant located at 3344 Medford street, Los Angeles.

GOLDEN STATE EXPANDS AT NEWMAN—Golden State Company, Ltd., begins construction of a \$65,000 warehouse at its manufacturing plant at Newman. The warehouse will have more than 10,000 square feet of floor space, and will have a capacity for approximately 100,000 cases.

MODERN FACTORY FOR STANDARD COIL PRODUCTS—Standard Coil Products Company, Inc., 2903 East Slauson Ave., Huntington Park, manufacturers of radio and television components, television tuners, etc., begin construction on a large modern factory, office and laboratory building at 1919 Vineburn Avenue. The plant is being constructed on a 7½-acre site which will provide room for truck movements, employee parking and future expansion.

PAPER BOX COMPANY BUILDS—Angelus Paper Box Company, 6001 South Eastern Avenue, Maywood, will soon begin construction on a large new plant on adjacent ground, which will house the company's container plant, now at 61st and Avalon, by the end of 1950.

B. F. McDONALD BEGINS CONSTRUCTION—B. F. McDonald Company, 5112 South Hoover street, Los Angeles, manufacturer and distributor of industrial safety equipment, begins construction of a large new plant and office building at 5721 West 96th street, to be completed by the first part of November.

SIGN COMPANY TO MOVE—A B Sign Service of California, Inc., 2044 East 45th Place, producers of signs for chain store operations, plans construction of a new plant at 5439 West 104th street in the Los Angeles Airport Industrial Tract, which is expected to be completed by the end of the year.

NEW PLANT FOR MODEL DIE CASTING—Model Die Casting Co., 5710 South Paloma Avenue, Los Angeles, manufacturers of

THE WEST ON ITS WAY

small zinc die casting and model railroad equipment, are in process of constructing a new plant at the Los Angeles Airport Industrial Tract. Their new address will be 10280 Glasgow Place and it is expected the plant will be completed by October 15th.

SUNSET METAL SPINNING WORKS MOVE—Sunset Metal Spinning Works, 1212 W. 2nd street, move to a new large plant at 3412 E. Olympic Boulevard, Los Angeles, which will increase facilities for the firm.

ALUMINUM WELDING FIRM MOVES—Awica Products moves from 2261 Federal Avenue, to a new plant at 2113 Stoner Avenue, West Los Angeles, where increased manufacturing facilities are available. The company does magnesium, stainless steel and aluminum welding.

SAXTON MFG. CO. MOVES—Saxton Manufacturing Company, general machine shop operators, move from 137 W. Jefferson to a new location at 6620 McKinley Avenue, Los Angeles, where new machinery has been installed.

MANUFACTURING CORP. MOVES—Richter Manufacturing Corporation, makers of dies and molds for plastic manufacturing and custom molding work, moves from 5805 Marilyn Avenue, Culver City, to 5761 West 98th Street, Los Angeles.

\$3,500,000 EXPANSION PROGRAM FOR PERMANENTE—Permanente Cement Company, Oakland, begins expansion program to cost approximately \$3,500,000, to augment its distribution facilities and provide an additional 5,600,000 sacks of cement a year. A fifth kiln and other major equipment and additions will be added to its plant in the San Francisco Bay Area near San Jose, and its plant will be increased 25 per cent in capacity. The program also includes enlargement of facilities in Seattle. Expansions are scheduled for completion by February 1951.

AIR FORCE CONTRACT FOR PACIFIC AIRMOTIVE—Pacific Airmotive Corp., 2940 North Hollywood Way, Burbank, signs contract with the Air Force for modification of an undisclosed number of F-51 Mustang fighters at an initial figure quoted as \$2,500,000. In addition, the company received contracts amounting to \$1,256,307 for reconditioning Pratt & Whitney R-2800 engines, and \$250,000 for the major overhaul of Pratt & Whitney R-1830-02 engines. The work will be done at PAC's Burbank plant. PAC also signs a new lease at their present quarters on the Oakland Airport grounds, where they have been located since 1940.

COLORADO

BURTON-DIXIE PURCHASES DENVER MATTRESS CO.—Burton-Dixie Corp., bedding maker, purchases Denver National Mattress Co., Denver, for an undisclosed amount. The Denver factory will produce and distribute the full line of the company's products.

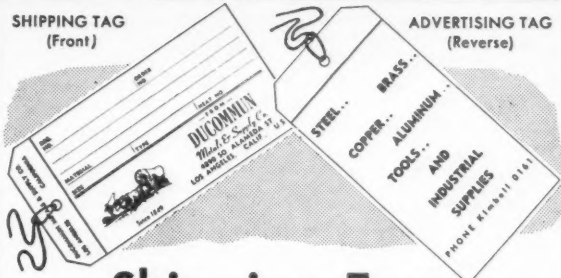
MILLION-DOLLAR URANIUM MILL FOR GRAND JUNCTION—Plans are underway for a \$1,000,000 uranium mill on Colorado's western slope by Climax Uranium. Stearns-Roger Construction Company of Denver is expected to receive contract for rehabilitation of a former sugar factory to house the uranium processing plant.

IDAHO

SUB ATOM PLANT FOR IDAHO—The Atomic Energy Commission approves plans of the power plant for the Navy's planned atomic submarine to be built at the project now under construction in eastern Idaho. The reactor will be built and tested at the Idaho reactor testing station.

IDAHO PORTLAND CEMENT TO EXPAND—Construction begins soon on a project that will double output of the Idaho Portland Cement Co. plant at Inkom. Equipment has been purchased and it is expected the new facilities will be in operation by January 1, 1951.

GIMLET SITE OF SMELTER—Consolidated Smelting and Refining Co. purchase a 160-acre site a mile north of Gimlet on the east side of Wood river on which to erect a plant brought from Phoenix,



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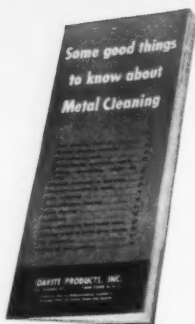
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THE WEST ON ITS WAY

Ariz., and also to construct a new smelter. When in operation, the smelter is expected to employ 40 to 50 persons, and will operate 24 hours a day.

MONTANA

FLOUR MILL LEASED—Lake Milling Company, a newly formed firm headed by Chas. Grosscurth, St. Ignatius, leases the flour mill in Ronan owned by Mrs. J. W. Martin, and plans improvements in the building and machinery costing approximately \$50,000. The company will operate the flour mill and manufacture a complete line of formulated feeds. Installation and operation of a seed grain cleaning and treating service will also be made.

NEVADA

ADDITIONAL POWER REQUESTED—Western Electric Chemical Co. has made request of Colorado River Commission for Nevada, to quadruple its facilities at the state-owned Basic Magnesium plant near Hoover Dam. Additional power and facilities for construction and expansion would amount to approximately \$5,000,000. The chemical concern plans to employ at least 500 men if the request is granted.

BASIC REFRACTORIES ADDS FACILITIES—Basic Refractories, Inc., adds a huge kiln and other facilities to its plant at Gabbs, which will manufacture dead-burn and other refractories to supply the company's outlets in the West. 150 men will be employed to handle the operation. MacDonald Engineering Co., San Francisco, receives contract for adding the processing equipment to the mining operation and will employ 750 men on the job. Completion is expected by January 1, 1951.

NEW MEXICO

CARCO AIR SERVICE MOVES HEADQUARTERS—Carco Air Service moves its operating headquarters from West Mesa Airport to Kirtland Air Force Base, to facilitate its air carrier service between Sandia Base and Los Alamos, operated under contract for the AEC. Carco offices and repair shops will be housed in a hangar now being built on a location west of the field. A dirt taxi strip, constructed with Air Force approval, connects the Carco area with the Kirtland runways.

OREGON

ROGUE RIVER PLANT SOLD—Campbell & McLean, plywood manufacturers, Eugene, purchase from Washington Veneer Co. of Olympia, the Rogue Veneer Co. plant at Gold Beach. Veneer from the peeler plant at Gold Beach will augment the supply of green veneer for manufacture at Campbell & McLean's Eugene plant.

PLANING MILL BURNS—Spangler Lumber Company's planing mill at Bly burns to the ground, damaging it in an undetermined amount.

NEW OWNER FOR BAKER WOOD PRODUCTS—Curtis Companies, Inc., Clinton, Iowa, purchase the Baker Wood Products Co. plant at Baker. The new owner expects to step up production on a number of items with the increased supply of raw material.

\$300,000 BLAZE LEVELS CHAIN PLANT—Portland Chain Company plant, 6630 N. Burlington Avenue, St. Johns, burns at an estimated loss of \$300,000.

SILVER LAKE FIRM TO REBUILD—Destroyed by fire of undetermined origin, the Silver Lake Lumber Company mill, near Silver Lake, will begin rebuilding operations. In addition to the loss of the mill, 10,000 board feet of lumber was destroyed.

BEALL PIPE & TANK TO EXPAND—Beall Pipe & Tank Corporation, Portland, acquires ten acres of land and a 145,000-square foot building from Oregon Shipbuilding Corporation at an approximate cost of \$500,000.

THE WEST ON ITS WAY

\$450,000 SUGAR PLANT FOR PORTLAND—Construction by Amalgamated Sugar Co. of a sugar distribution plant and complete warehousing facilities for both bulk and package sugar will begin soon, and will cost approximately \$450,000. Contract for construction has been awarded to Buttress and McClellan and the Waale-Camplan Co. The structure will have a daily capacity of 900,000 lbs. of bulk sugar, some of which will be processed into liquid sugar, sugar syrup and blends with corn syrup, and is expected to be completed late in the year. It will serve Western Oregon and southern Washington.

EUGENE SITE FOR BAKING CO.—Davidson Baking Co., Portland, acquires a new site in Eugene which will be a distribution plant for all of southwest Oregon. The branch plant will cost about \$250,000 and will be ready for occupancy the beginning of 1951.

UTAH

\$250,000 CONSTRUCTION FOR PIPE CO.—Pacific States Cast Iron Pipe Co. plans to begin construction this summer on a \$250,000 office building on property purchased from Utah county as a building site, which is situated directly north of present plant facilities. The new office building will contain approximately 15,000 sq. ft. of floor space and will be a one-story L-shaped structure.

FILTROL CORP. SELECTS SITE—Filtrol Corporation selects location for construction of its new \$2,500,000 plant for the manufacture of catalytic agents used in refining oil, at the Industrial Center at 1700 South Redwood Road, Salt Lake City. Operations are expected to begin immediately and employment will be provided for approximately 350 persons.

\$200,000 CANDY FACTORY—J. G. McDonald Chocolate Co. begins construction on a \$200,000 candy factory at 2250 - 3rd East, Salt Lake City. The company will employ 130 people and completion is expected by October 1950.

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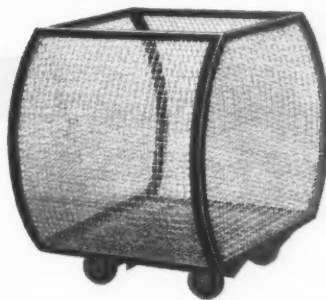
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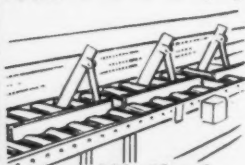
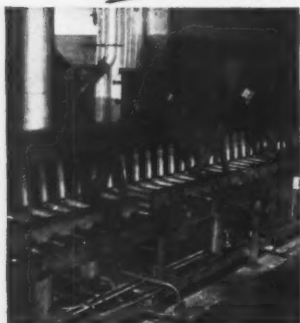
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THE WEST ON ITS WAY

WASHINGTON

\$1,000,000 REFINERY AT EDMONDS—Union Oil Co. of California plans to build a \$1,000,000 asphalt refinery at Edmonds, with an annual capacity of 65,000 tons of paving asphalts, construction on the project to begin August 1, and completion scheduled for June 1951. Bechtel Corp. will build the refinery, tankage and shipping facilities. Crude oil will be shipped from California by tanker.

LIBBY LEASES FROZEN FOOD PLANT—Libby McNeill & Libby, San Francisco, takes over the Mt. Vernon frozen food plant, formerly Polar, on a one-year lease with option to buy. Facilities have around 100 tons daily capacity and 3 million pound storage space.

SCHMITZ BUYS BERGER ENGINEERING CO.—Ferdinand Schmitz, Jr., purchases Berger Engineering Co., Seattle, logging equipment manufacturing concern. Schmitz was former vice-president of Pacific Car & Foundry Co., Renton, and recently resigned his position as vice-president of the Seattle Steel Co., and Inland Steel Co., Spokane, to take over active management of the Berger company.

ACME DOOR CORP. FORMS—Acme Door Corporation forms to succeed Acme Door Co. of Hoquiam. The new company will be controlled by Georgia-Pacific Plywood & Lumber Co., the latter having a sales contract with the successor firm under which it will sell its entire output of 4,500 doors daily.

\$200 MILLION PIPELINE TO SPOKANE PLANNED—Pacific Northwest Pipeline Corporation plans to build a 26-in. pipe line to carry natural gas from the Houston, Texas, area to Spokane and Vancouver, B. C. Cost of the 2400-mile line would approximate \$200,000,000, and the line would be capable of delivering 350,000,000 cubic feet of gas daily to Seattle, Spokane, Portland, Salt Lake City and other cities along the route and to Vancouver. Application



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Fig. 421—LIVE SKID has two load-carrying wheels near one end, and steel legs at the other end.

WITH FIG. 419 JACK the skid is easily pulled or pushed. An ideal "set-up" for factories, warehouses, etc.

Skids have hardwood platforms bound at ends with angle steel; roller bearing wheels, pressure lubricated; Semi-steel or rubber-tired wheels. Made in all sizes, with any special racks desired.

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THE WEST ON ITS WAY

for permit to build has been filed with the federal power commission in Washington, D. C.

AMALGAMATED SUGAR BUILDS DISTRIBUTING PLANT—Amalgamated Sugar Co. begins construction on a sugar distribution plant at Denver Avenue between Fourth Avenue South and Airport Way, Seattle, costing \$250,000. Contract awarded to Boesflug Construction Co. and completion expected by August 31st.

WYOMING

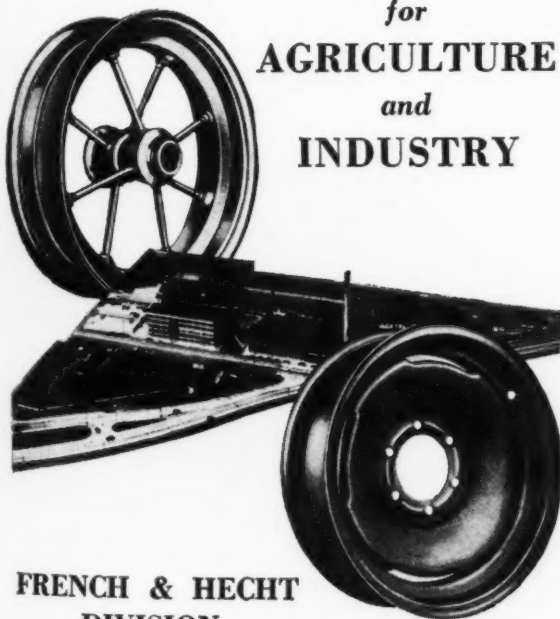
NORTH CENTRAL PLANS GAS LINE—North Central Gas Co., Casper, plans to build a five-mile natural gas pipe line from the Huntsman oil field of Cheyenne County, Nebraska, to Sidney, Nebraska. Application has been made to the Wyoming public service commission for authority to sell a \$600,000 mortgage note to finance the facility. Contract has been made with the White Ditching Co., Casper, to lay the distribution lines and it is expected gas will be flowing by early October.

STRIPPING PLANT UNDER CONSIDERATION—Mountain Fuel & Supply Company is considering the erection of a \$1,000,000 "stripping plant" at Church Buttes Field, Sweetwater and Uinta counties. Conferences on cost, size and operation are being carried on, and if the plans consummate, completion would be expected by 1952 or earlier. The plant's function would be to take the gasoline condensates and heavy wet hydrocarbons from the natural gas in the field.

OIL COMPANIES MERGE—The Husky Refining Company, Cody, Wyoming, merges with the newly-formed Husky Oil Company, a Delaware corporation. Reorganization was effected to give the company a name indicating its broadened operations as a fully integrated oil company. Stock ownership remains identical, as do the officers.

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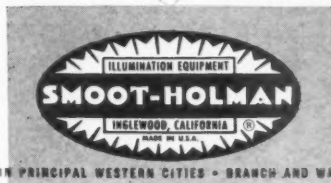
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NEW MATERIALS & EQUIPMENT

E-85001

Cold Solder Method

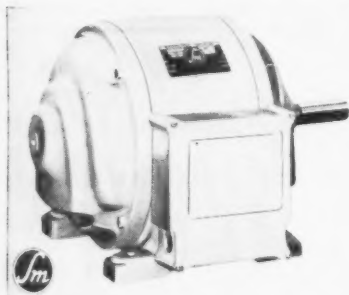
Features claimed: Fixx, a cold solder, is applied like putty and hardens like metal. Like metal, it can be ground, filed, sanded, polished and painted. It is non-shrinking, non-rusting, waterproof, and flexible. It can be used for sealing, waterproofing, patching, caulking, resurfacing, and filling. It can be used successfully for repairs to tanks, gutters, pipes, sinks, patterns, casting and machinery.

Manufacturer: H. K. Porter, Inc.

E-85002

Single Phase Capacitor-Type Motors with Drip-Proof Feature

Features claimed: These additions to the line of Kloss motors have a newly-designed starting relay that eliminates the necessity of centrifugal switches or any rotating devices such as throwout switches, commutators, or



brushes. Kloss motors may be side-wall mounted, inverted ceiling mounted or floor mounted, and still retain the drip-proof feature by simply rotating the end bells so that the air vent openings point downward.

Manufacturer: Sterling Electric Motors, Inc., Los Angeles.

E-85003

Increased Jaw Capacity Welders Clamp

Features claimed: The Bernard Model "B" Pro-Clamp, with 2½-in. jaw capacity, provides for a one-man, inexpensive, mechanical means for quickly and accurately positioning and holding plates, rods, bars, angles, tubes at any degree or angle. One face of each of the 2 rotating clamps has been provided with a flat surface for gripping plates or other flat surfaces; the opposite face of each clamp has a

V form for handling round or oval pieces. Pressure screws may be shifted from one side of these clamps to the other so that either the V or the flat side may be placed next to the piece being handled. Clamps are rotatable in the U frame through a full 360°; each clamp has a double 180° machine cut protractor scale as well as a positive locking device so that the exact angle desired can be easily set and then rigidly held.

Manufacturer: Bernard Welding Equipment Co., Chicago.

E-85004

Speed Reducers with All-Steel Housing

Features claimed: The concentric shaft speed reducer and right angle shaft all-steel speed reducer are designed for a variety of power transmission requirements in almost every industry. They are adaptable to electric motor drives, belt drives, gas engine drives, and chain drives. They are suitable for use as a speed increaser or reducer.

Manufacturer: The Falk Corp., Milwaukee, Wis.

E-85005

Grommet That Won't Pull Out

Features claimed: Regardless of friction or vibration caused by the part passing through its hole, the Arco Sta-Put insulated grommet, series 3120, will not loosen or pull out, exposing sharp, ragged edges of the blanked metal. The Sta-Put grommet can be



installed from the face of the hole by use of an expanding hand tool made available by the company. The tool is used to roll and force the curled prongs tight against the under-surface, assuring a positive, secure fit. Complete rubber covering prevents cutting, chafing, shorting and rattling of wires, cables, conduit, or tubing which pass through the holes.

Manufacturer: Automotive Rubber Co., Inc., Detroit.

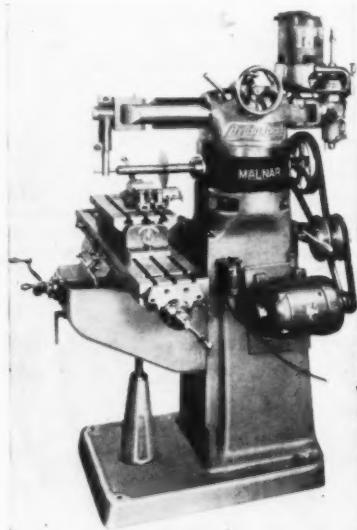
FOR YOUR CONVENIENCE . . .

Use this postage-paid card to obtain further information on products mentioned on these two pages and literature listed on following page.

E-85006

Horizontal Unit for Vertical Milling Machine

Features claimed: Created and engineered for the Bridgeport Vertical, the Malnar horizontal unit makes the Bridgeport Miller a universal, and thereby eliminates errors in resetting from vertical to horizontal operation. The job is set up as usual and worked vertically with the Bridgeport head, or, the Bridgeport can be swung away and the job worked horizontally with



the Malnar unit. The Malnar unit is permanently centered on zero and the Bridgeport vertical head swings back immediately to the zero position.

Manufacturer: Malnar Machine & Tool Co., Inc., Cleveland.

E-85007

Chronometric Tachometer

Features claimed: A combined chronometer and revolution counter as well as a surface speed indicator. With an accuracy of .01%, the dial provides direct readings because the chronometer times the period of test to exactly 6 seconds. When the operator presses the tip into the shaft to be measured, the tachometer and shaft start turning at the same speed. The timing release button is then pressed, which sets the hands to zero. When the button is released, the spindle couples to the counting mechanism. After 6 seconds, the coupling disengages and the dial reading is the correct r.p.m. for the

shaft because the scale is calibrated to 10 times the revolutions counted.

Manufacturer: Technical Oil Tool Corp., Los Angeles, Calif.

E-85008

Smudge-proof Labeling Tape

Features claimed: A pressure sensitive tape that is waterproof, oil proof, acid resistant, and will withstand temperatures up to 150° F. Made of 2 sheets of acetate tape with a special carbon materials sealed between, identification cannot be erased, smudged, or rubbed off. Labelon is available in 5/8 or 3/4-inch widths. Any desired length is easily torn off from the dispenser. It sells in 500-inch rolls at \$1.49 each.

Manufacturer: Labelon Tape Co., Rochester, N. Y.

E-85009

Electrical Metallic Tubing

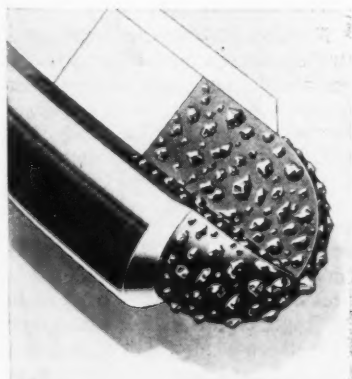
Features claimed: The tubing is adaptable to a wide range of electrical raceway services. Known as Central Electrical Metallic Tubing, the product has an electro-galvanized exterior finish. The interior is finished with an elastic enamel coating. It is being manufactured in sizes from 1/2 to 2 inches and standard 10-ft. lengths.

Manufacturer: Spang-Chalfant Division of The National Supply Co., Etna, Pa.

E-85010

Diamond Impregnated Carbide Wheel Dressers

Featured claimed: Diamond impregnated carbide wheel dressers, using a number of small, inexpensive diamonds embedded in a special carbide matrix instead of a single expen-



sive diamond fitted into a steel holder, are currently effecting savings of up to 40% in wheel dressing costs. These dressers have been adopted for final

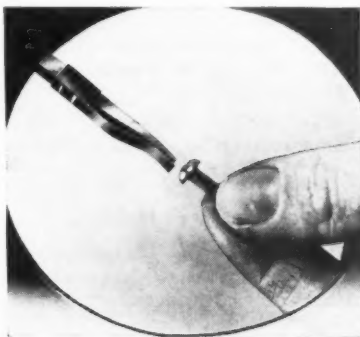
truing operations on grinding wheels in that manufacturing process. Accurate dressing can be obtained in re-truing wheels, if the dressers are properly maintained.

Manufacturer: Carboloy Co., Inc., Detroit.

E-85011

Screw Driver with Screw Holder

Features claimed: Inserting or removing screws from deep holes is made easy with the Vaco Klipxon. The spring



clip screw holder can be slid up the shaft and out of the way when not needed. Visibility of the screw slot is unimportant when extracting a screw because the Klipxon can be made to grip even the smallest screw through sense of feel and very light pressure.

Manufacturer: Vaco Products Co., Chicago.

E-85012

Thermoplastic One-Piece Tote Box

Features claimed: Royalite tote box has handles that are formed into the roll of the upper lip so that the box can be picked up from any side. All corners are rounded. It is notched for criss-cross stacking, with adequate locking when boxes are stacked. Contents of each can be easily seen when stacked. Boxes are light weight, easy to clean, acid-resistant, non-toxic, and absorb almost no water.

Manufacturer: U. S. Rubber Co.

E-85013

Motor Drive for Automotive Boring and Reaming

Features claimed: These Speed-Trol motors are adaptable to such unknown and varying conditions as: hole size, material, tools, and finish. Convenient speed adjustment is offered through finger tip control. Full power is available at all speeds of the constant horsepower rated units. Constant torque

rated unit is used as a feeder drive. Positively controlled adjustable pulleys assure smooth, steady speed.

Manufacturer: Sterling Electric Motors, Inc., Los Angeles.

E-85014

Hydro-Wynd for Smooth Winding Operations

Features claimed: A drive combining a hydraulic coupling with a planetary gear set, whose ring gear is fixed to the impeller or pump of the hydraulic coupling. The planet gear carrier is fixed to the runner of the coupling, while the sun gear is fixed to the output shaft. In operation, the automatic slip of the coupling reacts with the gear set against the varying torque and speed requirements of the winding spool to allow the Hydro-Wynd to replace adjustable slip clutches or other devices formerly used. As the torque load increases or decreases, the Hydro-Wynd increases or decreases output torque, rather than horsepower, directly proportioned to the load imposed, much as in a hydraulic converter.

Manufacturer: Twin Disc Clutch Company, Racine, Wis.

E-85015

Industrial Cushion Tire

Features claimed: Mono-Cushion, by cushioning the ride, greatly reduces wear on vehicles, particularly on steer-



ing linkages, bearings and driving trains. Load breakage is reduced for trucks. This tire combines a specially compounded rubber with correctly modulated contour, in order to achieve improved wearing qualities and better shock absorption characteristics.

Manufacturer: Monarch Rubber Co., 42 Lincoln Park, Hartville, Ohio.

E-85016

Revolutionary Die-Cast Process

Features claimed: In one completely automatic operation the Inter-cast method simultaneously casts two or more movable complementary ele-



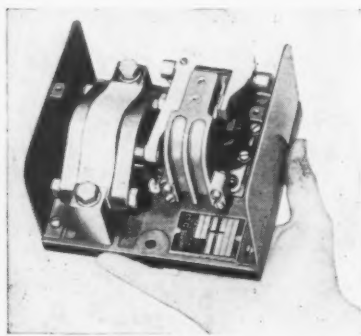
ments, completely assembled and trimmed, ready to be plated or used immediately. Three types of movable-element Inter-cast products are: scissors, a product whose parts necessitate a close, precise fit; link chain, a very loose interlinked design; pintle chain with Y-shaped elements, with precise-fit but movable hinge elements.

Manufacturer: Gries Reproducer Corp., New York.

E-85017

Magnetic Air Valve with Rotary Action

Features claimed: Rotary design in a magnet-operated air valve permits high capacity and fast operation in ex-



tremely small size. This small valve is suited for use on welding machines, air-operated clutches, and any clamps, tools, lifts, and other machines powered by compressed air. It is designed as a four-way, four-port, $\frac{3}{8}$ -in. valve, for control of a double-acting air cylinder. It can also be converted to a three-way, or two-way operation, by

plugging the proper ports. Valve cross sectional area is greater than that of a $\frac{3}{8}$ -in. standard pipe, and pressures up to 100 lbs. per sq. in. can be handled.

Manufacturer: Square D Co., Milwaukee, Wis.

E-85018

Rotary Shelf Storage

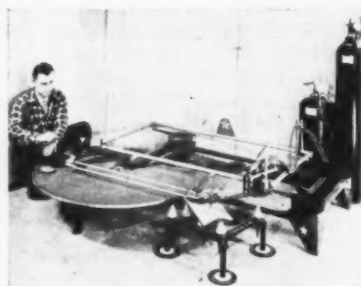
Features claimed: This Rotabin Counter, designed to increase availability of storage space under counters, provides aisle access to 72 large compartments in 12 independently rotating trays, all 28 in. in diameter. In addition, four stationary spaces are available for large items. Built entirely of steel, the counter's overall dimensions are 6 ft., $3\frac{1}{4}$ -in. long x 27-in deep x $41\frac{1}{8}$ -in. high.

Manufacturer: Frick - Gallagher Manufacturing Co., Philadelphia.

E-85019

Pantograph Torch Holder

Features claimed: The principle of the pantograph assures accurately cut patterns, devoid of ragged edges in addition to lessening eye strain. The



operator works away from the flame and does not need to watch it steadily. In addition to contour flame cutting, light materials can be butt-welded by substituting a welding torch for the cutting torch. Contour template problem is simplified, because adjustable templates or form duplicators are furnished with the machine and others can be cut from light metal with a pair of tin snips.

Manufacturer: Krohn Manufacturing and Supply Co., Centreville, Mich.

E-85020

Incandescent Fixtures with Fluorescent Appearance

Features claimed: a recessed lighting unit consisting of a semi-silvered lamp bowl and a grill-like accessory. Advantages include better illumination, modern appearance, simple wiring, light weight, fast installation, freedom from service call-backs, and lower cost. There are no sharp shadows, the 90-degree shielding prevents both di-

rect and reflected glare, and there is a complete absence of flickering, blinking and hum. The silvered reflector of the Skylike is permanently sealed, and there is no light loss from depreciated ceilings, because Skylike carries its own 87% reflection factor ceiling.

Manufacturer: Silvray Lighting, Inc., New York City.

E-85021

Corrosion and Acid-Resistant Pump

Features claimed: Safe and convenient transfer of acids and other liquids from stainless steel containers is now possible with the GS No. 17 pump.



Liquids flow smoothly and stop instantly. They come in contact only with the corrosion-resistant tube. The pump is fitted with a safety valve for air line pressure and a hold down clamp to secure the pump into the container, together with 25 ft. air hose with male or female coupling and chuck attached.

Manufacturer: General Scientific Equipment Co., Philadelphia.

E-85022

Adjustable Press for Surface Broaching

Features claimed: A 10-ton, 36-in. stroke press equipped with a manually operated fixture is used to taper accurately both sides of from 6 to 15 hand stamp blanks, per cutting stroke of the machine, the number depending on the size of the hand stamp stock being broached. The equipment, by simple adjustments, can be used to broach interchangeably stock as small as $\frac{1}{4}$ in. and as large as $\frac{5}{8}$ -in.—and several sizes in between—as well as of different lengths. Thus the equipment combines the advantages of high output rate and precision characteristics of broaching, with the advantage of adaptability to production in job lots, as needed.

Manufacturer: Colonial Broach Co., Detroit.

HELPFUL LITERATURE

for the plant operator who wants to keep informed

85023-L

1950 EASTMAN INDUSTRIAL CHEMICALS CATALOG—The new edition offers purchasing agents, production superintendents and laboratory directors a compact description of the many chemicals which Tennessee Eastman Corporation offers to industry. Specifications, properties, and typical uses of these chemicals are included. Copies may be obtained upon request from *Tennessee Eastman Corporation, Kingsport, Tennessee.*

85024-L

STANDARDIZED CONVEYOR UNITS—*Standard Conveyor Company, North St. Paul 9, Minnesota*, have published a bulletin No. 63-A covering 11 types of Standardized Conveyor Units. This illustrated 24-page publication gives detailed information on Standardized Conveyor Units and includes various types of roller, belt and wheel conveyors for elevating, lowering and horizontally conveying sacks, cartons, boxes and bundles. Mail your request for free copy.

85025-L

CHELSEA'S NEW CATALOG AND ENGINEERING DATA BOOK—This illustrated catalog gives full engineering information, dimensions, performance and prices regarding all types and sizes of fans for industrial, commercial and residential applications. Included is information on direct drive or belt driven window fans, industrial pressure fans, mancoolers, PH units, duct booster fans and various fans of all kinds and description. Also a full line of automatic counter-balanced shutters for all applications. This catalog is available without charge from *Chelsea Fan & Blower Co., Inc., 1206 Grove Street, Irvington, New Jersey.*

85026-L

HANDY POWER WHEELBARROW—A hydraulic lift attachment for the *MOTOBUG* has been designed by the *Kwik-Mix Company of Port Washington, Wisconsin*. Development of the lift was revealed in a new catalog recently released by the company announcing a number of improvements for the unit.

85027-L

ELECTRICAL RESOLVERS—Eight new miniature electrical resolvers and seven others in two size groups developed particularly for electromechanical computing and control equipment are described in a new booklet titled "ARMA Electrical Resolvers," 12 pages, 8½" x 11", just released by *Arma Corporation, 254 36th Street, Brooklyn 32, N. Y.* Copies are available on request.

85028-L

NEW PRINCIPLE OF INSULATION—An aluminum thermal insulation consisting of three tough permanently separated metal sheets, and two fiber, flame, mold and vermin-proof partitions has been put on the market under the name "Infra Type 6." It is a product of *Infra Insulation, Inc., 10 Murray Street, New York, N. Y.* All types of aluminum and mass insulations are de-

scribed in a booklet which will be sent free to anyone interested. Those who have not received the revised 44-page *Infra* brochure on heat and vapor flow, "Simplified Physics of Thermal Insulation," are invited to write for a copy. It contains a valuable master chart which gives the K, C, R, and U factors of all insulations, of all thicknesses, weights and densities.

85029-L

ANNUNCIATOR BULLETIN—Electrical engineers, electricians, power generation and distribution men and plant engineers will be interested in a new 4-page informative bulletin released by *The Autocall Company, Shelby, Ohio*, illustrating and describing the function and construction of their Type "ANG" utilities and industries. The "ANG" uses 1" x 1" translucent plastic windows engraved with numerals or letters, and actual size illustrations of the windows with two different styles of engraving are presented.

85030-L

POSSIBLE NEW INDUSTRIES for the lower Columbia River area—a 9-page pamphlet prepared by *Chester K. Sterrett* and issued by *Raw Materials Survey, 701 Woodlark Bldg., Portland 5, Oregon*, explores the existing need for materials that can be brought into the Columbia River area to add in the balancing of incoming cargo with outgoing movements.

85031-L

SHEAR KNIFE HANDBOOK, published by *Heppenstall Co., 4620 Hatfield St., Pittsburgh 1, Pa.*, is a 48-page glossary of useful information for those who specify, use, buy or grind metal-cutting shear knives.

85032-L

PREVENTION OF FIRES IN THE HOME—is the subject of a 24-page booklet published by the *Factory Mutual Engineering Division, 184 High Street, Boston 10, Massachusetts*. Printed in two colors and illustrated with cartoons, the booklet deals comprehensively with the whole problem of home fire safety. It describes in detail the many ways in which home fires can start and how they can be prevented. Specific recommendations are made for the selection of types of extinguishers for home use. Emphasis is given to planning for the safety of occupants in case of fire, and how such fires should be fought. Copies are available upon request.

85033-L

NEW TEMPERATURE AND PRESSURE INSTRUMENTS—Catalog 86 illustrates and describes new measuring instruments, including combinations of temperature, pressure, flow, etc., in one instrument case, and discusses cascade control. Also included is a description of the Type 3 Pneumatrol unit with proportional band, automatic reset and derivative action control. Copies may be obtained by writing *Fischer & Porter Company, 86 County Line Road, Hatboro, Pennsylvania.*

75014-L

CORRECTION

"SELLING TO THE GOVERNMENT," new pamphlet that you can obtain from Chamber of Commerce of the United States, Washington 6, D. C., we wrote up last month and erroneously stated "get your free copy today." This one will cost you 50 cents.

85034-L

"SHUTTLE-TRUK"—A circular dealing with the new Mercury "Shuttle-Truk" manufactured by the Mercury Manufacturing Company is available by addressing *The Mercury Manufacturing Co., 4044 S. Halsted St., Chicago 9, Illinois*. This equipment was originally designed to effect economies in freight and stores handling in the transportation field, but it has also attracted unusual attention in general industry, as a utility truck, for maintenance work as well as for general handling.

85035-L

TOOL CATALOG—Catalog No. 18 is the latest edition published by *Severance Tool Industries, Inc., Saginaw, Michigan*. It contains more than just a mere list of tools and prices, but is actually a Tooling Manual containing many suggestive uses of the various tools described and also pertinent technical information. Write for your free copy today.

85036-L

MECHANICAL AND HYDRAULIC JACKS—Complete specifications and application information on all sizes and types of Mechanical and Hydraulic Jacks are included in a new catalog issued by *Templeton, Kenly and Company, 1020 S. Central Avenue, Chicago 44, Illinois*. The 32 pages of this letter-file size catalog, known as No. 50, carry fully details of the 123 models of Ratchet Lowering, Hydraulic and Screw type jacks that comprise the standard Simplex line. Liberal use of photographs and drawings further enhance the practical usability of the new catalog.

85037-L

BIBLIOGRAPHIES ON CREASING AND WATER-REPELLENCY OF TEXTILES are discussed in a brief review released by the Office of Technical Services of the U. S. Department of Commerce. The bibliographies, prepared by the Army Quartermaster Corps to assist in the advancement of textile research, contain descriptive summaries of principal papers on these subjects as far back as 1937. Copies of the February issue of the "Technical Reports Newsletter" are available upon request from the *Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C.*, or from *U. S. Department of Commerce field offices.*

85038-L

UNIVERSAL FIXTURES FOR EX-CELL-O BORING MACHINES—The *Ex-Cell-O Corporation, Detroit 32, Michigan*, have published a new four-page pictorially illustrated *Universal Boring Fixture* folder. This folder lists both manual and hydraulic operated fixtures available for use on all styles of Ex-Cell-O Boring Machines. Various types of small production run jobs with detailed captions are illustrated, showing the fast set-up and easy change-overs possible with this equipment. Construction features and specifications for each style of Ex-Cell-O Universal Fixture are listed. Ask your Ex-Cell-O representative for a copy or write for bulletin No. 31101.

READING GUIDE FOR WESTERN MANAGEMENT

A service for all management levels . . . current literature surveyed and appraised by the faculty of the School of Management, Golden Gate College

Effects of Taxation, Inventory Accounting and Policies

By J. Keith Butters, Harvard University Graduate School of Business Administration, 1949, \$3.75.

This book is the first volume of a series of separate studies currently in progress. The whole series is concerned with the relation of taxation to important areas of business. Fortified by a grant of \$225,000 from the Merrill Foundation for Advancement of Financial Knowledge, the research has been undertaken by the Harvard Business School.

The first completed study by Professor Butters is an investigation of the tax aspects of inventory valuation methods, with major reference to the last-in, first-out method (Lifo). The book delves deeply into the importance of inventory valuation methods and the significance of inventory profits in the economy.

The main research centers about the extent of use of Lifo, considerations as to whether a company should adopt Lifo, effect of Lifo on the national economy, comparison of other valuation methods with Lifo, and the use of Lifo in the retail field. Seven of the twelve chapters are concerned primarily with Lifo. Other chapters deal with inventory profits, concept of profits, and a discussion of the traditional cost or market valuation method.

The statistical data in this work are extremely valuable in throwing light on the extent of the use of Lifo by companies and industries which is a relatively new accounting device, coming into full importance about 1939.

The book is technical and will appeal mainly to accountants and tax men who have considerable background of the subject. Also, it will be of interest to those who work with corporate statements, such as investment analysts.

Reviewed by:

LESTER GREENE
Lecturer in Investments
and Financial Analysis

Briefer Guides From The Management Library

Sales Engineering

By Bernard Lester. John Wiley & Sons, Inc., New York, 1950, \$3.00.

Here is a book written specifically for the man who sells machinery, equipment, or products to industry.

The author avoids high pressure selling methods and emphasizes a sales approach based on a knowledge of the product and the client's needs.

The Regulation of Industry

By Dudley F. Pegrum. Richard D. Irwin, Inc., Chicago, 1949, \$4.75.

A comprehensive study of the regulation of private industry with emphasis upon the social and political environments in which the regulation takes place. Attention is given to the organizational forms of business, the economic characteristics of modern industry, and the administrative problems of making enterprise fulfill its function.

Words Into Type

By M. E. Skillin. Appleton-Century Crofts Co., Inc., New York, 1950, \$5.00.

Here is a thorough and practical guide for preparing any kind of copy for the printer. In addition, it includes guidance in matters of grammar and the effective use of words.

Coordination Between Engineering, Production and Sales

American Management Association, New York, Production Series No. 193, 1950.

Includes: Management control for efficient production organization. A panel session on how can production, sales and engineering coordinate functions? And, policy, plans, and practice in expanding plant facilities.

Controlling Indirect Labor and Maintenance Costs

American Management Association, New York, Production Series No. 194, 1950.

Includes: Work measurement and incentives for indirect labor. Developing a maintenance program geared to company needs. Foreman participation in problems of management. A program of tested human relations principles for production.

Performance Rating and Job Analysis For Sales Personnel

American Management Association, New York, Marketing Series No. 78, 1950.

Includes: Effective use of planning and control in appraising and improving sales performance. Merit rating as an aid to incentive compensation. Applications of job analysis to sales supervision.

The Economics of Collective Bargaining

Edited by Charlotte Knight. Institute of Industrial Relations, University of California, 1950, \$1.00.

Each year it has been the practice of the University of California to sponsor a series of lectures on some aspect of industrial relations. This booklet contains the proceedings of lectures held during 1948 and 1949 in Berkeley and Los Angeles. The speakers include such men as Sumner Slichter, Walter P. Reuther, Edwin G. Nourse, William Green, and others.

Automotive Transportation

By Wilfred Owen. Brookings Institution, Washington, D. C., 1949, \$2.00.

What conditions will govern the future development of automotive transportation in the United States? This study is an examination of the cost and quality of automotive transportation and an analysis of past trends and significant factors governing the automotive future. Particular emphasis is placed on the economics of automobile design and the problem of providing highways capable of meeting the heavy demands of traffic.

Tax Structure of the State of Washington

By Maurice W. Lee. The State College of Washington Press, Pullman, Washington, 1950, \$2.50 cloth bound, \$0.50 paper bound.

Here, in non-technical language, is a study of Washington's tax structure. It describes the kinds of taxes levied in the State of Washington, and gives special attention to the effect of the sales tax and the legal problems involved in the income tax. Comparison is also made between Washington's tax structure and that of other states.

Stepping Up the Salesman's Effectiveness

American Management Association, New York, Marketing Series No. 79, 1950.

Includes: Decentralization of the sales force for greater effectiveness. Using the sales force for market research. The salesman—man of the year. Where are the salesmen coming from?

Effective Merchandising: Promoting Dealer and Distributor Cooperation

American Management Association, New York, Marketing Series No. 80, 1950.

Includes: Developing a successful merchandizing program. Reinforcing the presentation at point of sale. A panel session on development of dealer and distributor cooperation.

Reviewed by:

BERNA M. CARLSON
College Librarian

Packaging Show Exhibitors Products and Personnel

Continued from page 41

Miller Wrapping & Sealing Machine Company, Chicago.

New Corley-Miller Model MPUS "Special" Wrapping Machine for wrapping self-service meats as well as other packages, will be on display.

Personnel in attendance: R. H. Freeman.

Minnesota Mining & Mfg. Company, St. Paul, Minnesota.

"Scotch" Branch Cellophane Tape; "Scotch" Brand Filament Tapes; "Scotch" Pressure-Sensitive Tape; Dispensers and other "Scotch" Tape applying equipment.

Function: Packaging and sealing.

Personnel in attendance: W. S. Aldrich, Supervisor, Tape Dispensing Equipment, Customer Engineering Service; Irvin Danielson, Packaging Engineer, Technical Service, Tape Division; J. V. Monley, Tape Sales Representative, San Francisco Branch Office; E. B. Thompson, Tape Sales Manager, San Francisco Branch Office; J. G. Utter, Tape Sales Representative, San Francisco Branch Office; Wm. E. Zimmerman, Sales Manager, Industrial Trades, Tape Division.

Mobilift Corporation, Berkeley, California.
Two models of the Mobilift fork lift truck and an engine and clutch unit complete, both of which are manufactured entirely by the Mobilift Corporation.

Function of product: Handling palletized goods.

Personnel in attendance: G. A. Belford, district manager, D. A. Kinsley, P. H. Hannigan and M. E. Morgan.

Nashua Gummed and Coated Paper Company and Nashua Package Sealing Company, San Francisco.

Nashua Package will demonstrate the No. 52 Tysper and No. 208 National Package Sealer, together with plain and printed sealing tape for use in these machines.

Nashua Gummed and Coated Paper Co. will feature Pervenac and I-Mac Thermoplastic label paper for (1) Spot Labeling of Glass Jars, Cans, Plastics and other Rigid and Semi-rigid surfaces; (2) Bag Top Labeling for Cellophane, Pliofilm, Saran and other flexible films; (3) Prepackaging of foods and other products similarly wrapped in transparent films; and (4) Cake Labeling and other automatically wrapped packages.

Personnel in attendance: Alden G. Reed and Paul F. Mahoney, representing Nashua Gummed and Coated Paper Co. Robert A. Helstrom, John Brigham and James C. Cregar representing Nashua Package Sealing Co., Inc.

National Adhesives Division, National Starch Products, New York.

Display of products.

Personnel in attendance: Frank Greenwall, Don Pascal, Fran Loetterle, Chris Fazioli, Hoadley Johnson, Aaron Rose, Harry King, Paul Griffiths and Bob Burk.

New Jersey Machine Corporation, Los Angeles and Chicago.

The exhibit will consist of actual demonstrations of the Pony Label DRI machine, Model 86T0, applying spot labels printed on thermoplastic coated paper, thus eliminating completely the use of wet adhesives. The Code-O-Matic machine, Model 87, used for printing code or batch numbers on printed labels will also be shown. Also the new Model 170, Round Can Labeler, which in-

corporates a gravity fed top side loading label hopper. Also a new automatic machine for setting up tuck end folding cartons which is to be known as the Tuck-O-Matic machine will be shown.

Personnel in attendance: George von Hofe, president; Peter L. Heguy, West Coast manager, and Richard Tank, service engineer.

P. F. O'Donnell Co., San Francisco.
American Stitching & Stapling Machines; Algene Markers & Printers; Yale Hand Lift Truck; Super-Stitch Stitching Wire; Lancing Trucks and Multistamp Duplicators.

Function: Stitching and stapling, marking, printing and duplicating.

Personnel in attendance: D. Fisher Brown, Lyle Kitterman and P. F. O'Donnell.

Pacific Steelfiber Drums, Inc., Alhambra, California.

Pacific Steelfiber and Pacific All-Fiber Drums.

Function: Drums and containers.

Personnel in attendance: F. B. Perriguy, engineer; W. E. Hall, Jr., vice-president, and R. E. Hall, secretary-treasurer.

Allan W. Parker Co., San Francisco.
Three separate pieces of equipment manufactured by the Perl Machine Manufacturing Company of Brooklyn, New York.

Function: Filling machines and tube closing machines.

Personnel in attendance: Allan W. Parker and two associates.

Ira G. Perin Co., Los Angeles and San Francisco.

Elwell-Parker F-26 T, 2,000 lb. fork lift truck, Elwell-Parker F-30 T, 4,000 lb. fork lift truck, Revolver "Go-Getter" motorized hand pallet truck, Revolver "Go-Getter" straddle truck, Powell corrugated steel dump boxes.

Function of products: Handling industrial materials in warehouse, factories, docks, canneries.

Personnel in attendance: R. J. Perin, general manager and partner, I. G. Perin, sales engineer and partner, Mrs. R. J. Perin, advertising manager, Joseph Mattson, sales engineer, and Clarence Cunningham, sales engineer.

Plans are to have a continuous demonstration of the latest Elwell-Parker fork trucks and Revolver motorized hand trucks handling unit loads with Powell special fabricated steel containers.

Protexall Permanent Process Service, Kansas City, Mo.

Permascaler Portable Laminator.

Function: Laminating with precoated heat sealing and pressure-sensitive transparent films.

Personnel in attendance: Gilbert L. Lewis, general manager.

Reynolds Metals Company, Richmond, Virginia.

The company will display all forms of aluminum foil packaging in its booth.

Personnel in attendance: Charles Chapline, T. J. Costello, H. C. Clement, C. G. Kessler and Omer Proudfoot.

Rotofill, Inc., Burbank, California.
Revolutionary new type rotary filling machine. Trade name "Rotofill."

Function: Filling of products.

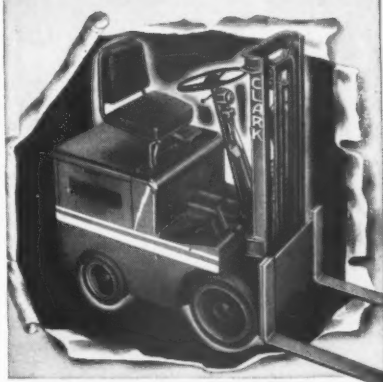
Personnel in attendance: Frank Maruca and E. H. Bridgman.

Schooler Manufacturing Co., Glendale, California.

Exhibition of two machines, one the

Continued on next page

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★ **Non-Plugging Controls**—Impossible to change direction until motor comes to full stop.

★ **"Deadman" Safety Brake**—Brake sets automatically, and directional control lever locks automatically in neutral when driver leaves seat.

★ **Independent Hydraulic System**—Separate motor increases lifting and tilting speeds about 80 per cent—gives drive motor big efficiency boost.

★ **Greater Capacity**—Increased lift capacity and speed; increased travel speed. Simplified driving.

★ **Easy To Service**—Easy access to battery-compartment and plug-receptacle. Grease fittings within easy reach.

For full information, get in touch with your nearby Clark dealer—a capable counselor on handling problems. The coupon is for your convenience—no obligation.

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standard Model J-2 and the other a special machine developed for wrapping bacon, lunch meats or similar products.

Function: Semi-automatic wrapping.

Personnel in attendance: J. T. Schooler and Ralph Wittenberg.

Sherman Paper Products Company of California, New York and Los Angeles.

Display will be comprised of die-cut paper specialties for the packaging of bakery products, cosmetics and other protective packaging uses, and industrial packaging materials identified under the trade names of Corroflex and Corroflex Tube-Tainer.

Function: Wrap for outer protection.

Personnel in attendance: J. C. Fischer, general manager; H. C. Kraft, C. A. Meginniss, J. B. Andrews, H. A. Anderson, C. P. Barnett, F. P. Collister and J. M. Jackson.

Simplex Packaging Machinery Inc., Oakland, California.

Joint showing of Simplex Packaging Machinery Inc., Amsco Packaging Machinery, Inc., and Miller Wrapping & Sealing Machine Company. The following equipment will be shown: Simplex-O-Matic; Simplex Bag Making Machines for Cellophane, Pliofilm, Polyethylene, Saran; Corley-Miller MPUS "Special" Wrapping Machine for self-service meats and other packages; Corley-Miller Heat Sealing Irons, Hot Plates, etc.; Amsco Rotary Sealers for Cellophane, Pliofilm, Polyethylene, etc.; Holm Weighing and Filling Machine; and Frazier "Whiz-Packer" Volumetric Filling Machine.

Function: Demonstrations of automatic bag making, bag filling, and bag sealing equipment.

Personnel in attendance: R. Gaubert, president of Simplex; B. B. Josi, sales man-

ager, and R. H. Freeman, sales manager of Miller Wrapping.

Southern California Plastic Company, Glendale, California.

Measuring Cup 3-in. diameter x 3 3/4 high; Twist-Seal Container 4 3/4 diameter x 2 3/8; Utility Container 5 1/8 x 5 1/8 x 1 1/8; and Utility Container 3 3/8 x 7 x 1 1/8.

Function: Containers.

Personnel in attendance: Stanley J. Gray, president; Clyde H. Gray, sales, and Edward L. Kennedy, secretary-treasurer.

Stecher-Traung Lithograph Corporation, New York and San Francisco, California.

Lithography: Products include labels for cans, bottles, jars; box wraps; frozen food cannister labels; seed packets; cartons; as well as advertising material such as folders, broadsides, dispensing cards, postcards, menus, etc.

Personnel in attendance: Leo P. Blank, sales manager (who is also president-elect of the Western Packaging Association, the organization formed in connection with the Exposition); Al Acosta, Lloyd Kittredge, Peter Wells, Fritz H. Fritz, Lou J. Apman, David Sherwin and Frank Hoffman.

Swift & Company, Chicago.

Exhibit liquid, flexible, dry animal and dextrin adhesives against a large background map showing the location of the 16 adhesive manufacturing plants, three of which are located on the West Coast—North Portland, San Francisco and Los Angeles.

Function: Adhesives for glass labeling and numerous other packaging operations.

Personnel in attendance: C. S. Young, chemical engineer, Chicago; H. A. Upton, department head, San Francisco plant; R. B. Wright, department head, Portland plant;

and Frank Rose, department head, Los Angeles plant.

Fred Todt Co., Los Angeles, California.

Packages as produced on machines manufactured by Package Machinery Company, Pneumatic Scale Corp., Ltd., and R. A. Jones & Co.

Function: The exhibit of machines for packaging.

Personnel in attendance: Fred Todt, president; Bruce Wallace, sales manager; Ed Bostwick, manager, San Francisco office; Ed Minneman, manager, Seattle office, and Hugh Brownlee, salesman.

Upressit Products Corporation, New York.

Exhibition of metal reseal caps and metal tamperproof bands for metal and glass containers, trade name "Upressit."

Function: Air tight seal easy to open and reseal.

Personnel in attendance: James B. Taylor and H. J. Fouts.

Wolverine Paper Converting Machinery Corp., Detroit, Michigan.

Wolverine Cub Sheeter.

Function: Sheeter for cellophane converters or specifically for label users for the sheeting of small labels from a pre-printed roll.

Personnel in attendance: Richard W. Nagel and S. W. Newtols.

Wood Conversion Company, Saint Paul, Minnesota.

Display of a complete line of Tufflex Protective Padding.

Function: Protective padding.

Personnel in attendance: R. E. Backstrom, W. H. Boetger, C. E. Riebeth and J. D. Spencer.

ISLAND'S UNITIZED CONVEYOR TABLES



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PACIFIC COAST GAS ASSOCIATION

Capsules from USC Conference on Packaging and Materials Handling

Preventing Rust

If the government used the right preventative for the right job, we would never have any trouble. Specifications are now too broad. Certain specific rust preventatives are outstanding. For neutralizing finger prints, as good results can be obtained with plain hot water as with the specification material. Rust proofing material should be applied immediately.—DR. U. B. BRAY, *Los Angeles*.

Aluminum Foil

What about pin holes in new type aluminum foil? (1) They can't be avoided, and (2) they are not a serious handicap, according to a government report which allows a certain tolerance.—DR. L. M. HILL, director, packaging unit development, *Aluminum Company of America*.

Ship Cocoons

Cold type of strippable plastics are used in "cocooning" of ships. If these plastics are used correctly, they will provide a beautiful moisture and vapor-proof package, provided four or five coats are used.—J. W. REED, *R. M. Hollingshead Corp.*

Shipping Containers

We have found wooden boxes best for shipping larger units, and wire-bound boxes best for shipping smaller items. Used corrugated board is employed as a cushion. We had to design our own carton.—M. J. BOOKER, *Thermador Electrical Manufacturing Co., Los Angeles*.

Government Specifications

Government Specifications are currently being changed from JAN (Joint Army-Navy) to MIL (Military). We hope to have them completed in another year. We are trying to get specifications for materials and equipment changed.—C. K. ROYCE, Executive vice chairman, *Navy Packaging Board, Washington, D. C.*

Packaging Losses

Insurance companies are trying to reduce the stupendous losses caused by poor packaging by manufacturers and other shippers.—J. P. DOUGHERTY, *Insurance Company of North America, San Francisco*.

Citrus Industry

The citrus industry experiments with everything. They never turn anything down without investigation.—DR. ROY J. SMITH, associate professor of agricultural economics, *UCLA*.

Rustproofing Paper

Tests have indicated that VPI paper, if used in close proximity to the product wrapped, is good for about six months. Purpose of this paper is to eliminate rustproofing, and to make a product easier for the consumer to handle. Shell Development Company is the inventor; they license others to manufacture VPI.—ARTHUR R. GUENTHER, *Dearborn Chemical Company, Los Angeles*.

Metal and Fibre Drums

Metal and fibre drums proved to have good tensile strength needed for powdered products. Fibre drums are being strengthened so they will hold heavier contents.—W. E. HALL, JR., vice president, *Pacific Steelfiber Drums, Inc., Alhambra, Calif.*

Plioilm Use

Use of Plioilm for wrapping oranges, or as a layer, provides a package that is a "breather."—W. A. BOUDRY, *Goodyear Tire & Rubber Co., Los Angeles*.

Air Cargo Containers

Containers for air shipment of flowers require both rigidity and lightness at temperatures which will preserve a perishable product.—DR. A. B. ROSE, research department, *Lockheed Aircraft Corp.*

Program For Summer Management Conference

The program for the second annual summer management conference at Asilomar, Calif., Sept. 10-16 conducted by the Institute of Industrial Relations, School of Business Administration and University Extension, University of California, covers the following topics:

(1) The Economic Outlook; (2) Human Factors in Industrial Relations; (3) Effective Contract Negotiations; (4) Living Under the Collective Bargaining Agreement; (5) What Must Management Know About Organized Labor? (6) Security—Whose Responsibility?

In addition to these six subjects, four seminar groups will meet on Friday, September 8th, to discuss the following topics:

(1) The Relationship between Industrial Relations and Industrial Engineering and Management Control; (2) Problems of Communication; (3) The Public Interest in Labor Disputes; (4) The Use of Psychological Tests in Selection of Employees.

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INSULATES—applied 1/16" to 1/8" thick, provides extra insulation and protection.

PLIABLE—Expands and contracts with ordinary movement of building surface.

BRIDGES CRACKS—Eliminates the chief source of destructive surface deterioration.

HEALS ITSELF—If outer surface is broken, undersurface heals at point of abrasion.

2 DUM DUM FOR METAL—Its heavy film protects exposed metal surfaces against weather, fumes and gases. Stops rust and corrosion.

3 STACK DUM DUM—Heavy coating, protects concrete stack surfaces against vibration, high temperatures and general weather wear.

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WESTERNERS AT WORK

California

E. C. BORG appointed purchasing agent for Pacific Coast division of *The Texas Company*, Los Angeles, succeeding J. T. Rankin, retired.

ORLO E. BROWN, JR., joins the West Coast research laboratory of *Grayson Heat Controls*, Lynwood, as a research metallurgist. Brown was formerly chief metallurgist of Western Gear Co.

Marchant Calculating Machine Company, Oakland, names DAVID W. CHAPPUIS, controller.

JAMES W. MOLLER, former manager of private brands department of *Jelke* division of *Lever Bros. Co.*, New York, elected vice-president and general manager of *Kingsburg Cotton Oil Company*, Fresno, succeeding EARL J. CECIL, former president and general manager. Secretary-treasurer MILO ERWIN promoted to assistant general manager.



Plomb Tool Company, P.O. Box 3519 Terminal Annex, Los Angeles, California, appoints J. G. ALLEN vice-president in charge of Export sales.

WILLIAM H. PARK, division manager of the Pacific Gas and Electric Company, re-elected president of *Oakland Chamber of Commerce* for the 1950-1951 fiscal year. Named as vice-presidents are: PETER HOWARD, plant superintendent of *Howard Terminal*; FRED HIRSCHLER, general manager of the H. C. Capwell Company; and WALTER EGGERT, general manager of *Moore Business Forms*. KENDRIC B. MOORISH, assistant vice-president of the American Trust Company, Oakland main office, is the new treasurer.

BRUCE H. ROBINSON, General Petroleum Corporation, elected chairman of Conservation Committee of *California Oil Producers*. Other officers elected were CHESTER F. DOLLEY, *Atlantic Oil Company*, first vice-chairman; D. L. CALDWELL, *Barnsdall Oil*, second vice-chairman; and J. L. STEPHENS, *Chanslor-Canfield Midway Oil Company*, secretary.

JOSEPH H. COX named supervisor of electrical engineering for the Sunnyvale Works of the *Westinghouse Electric Corporation*. In addition to his new duties, Cox will retain district-wide supervision of quality control in the company's Western plants.

Shell Development Company, Emeryville, names associate directors of development as follows: B. M. BEINS, mechanical engineering; C. L. RAYMOND process engineering; M. SOUDERS, JR., chemical engineering; and D. L. YABROFF, process development. Other appointments include: C. R. NELSON, department head of process engineering with A. J.

CHERNIAVSKY and G. E. LIEDHOLM as assistant department heads; G. A. NELSON, staff metallurgist; W. E. HAND, head cost and appraisals; P. D. HISHON, chief draftsman-development; and P. R. HOYT and M. V. LONG staff consultants-instrumentation.

JOHN E. BARBER elected treasurer of *Columbia Steel Company*, a subsidiary of U. S. Steel Corporation, succeeding E. H. DANIEL, who retires September 1st after serving as Columbia's treasurer for the past twenty-one years.

FRED JACOBSON becomes manager of the *State Chamber of Commerce's* Central Coast district in charge of staff work in the district's area, which includes Alameda, Contra Costa, San Francisco, San Mateo, Santa Clara, San Benito, Monterey, Santa Cruz and San Luis Obispo counties, succeeding CLARK GALLOWAY, who now is manager of the State Chamber's Southern California district.

ARTHUR E. KENDALL named manager of operations of *Central Eureka Mining Company* at Sutter Creek.

ALVIN E. HEWITT elected to a vice-presidency and to the board of directors of *Arrowhead Rubber Company*, a subsidiary of *National Motor Bearing Co., Inc.* He formerly held the position of assistant general manager.

K. H. CRANDALL elected a vice-president *Standard Oil Company of California*.

L. D. JURS, vice-president of *Tide Water Associated Oil Company*, retires after completing more than 39 years of service with

the company. He will remain as a member of the company's Board of Directors.

EDGAR R. FRACHISEUR appointed general signal supervisor for *Santa Fe Railway's* Coast Lines, with headquarters in Los Angeles, succeeding T. A. SMITH, deceased.

C. R. WASHBURN, former technical superintendent for *Goodyear Tire & Rubber Company* at Topeka, Kansas, becomes technical superintendent at Goodyear's Los Angeles plant, succeeding PHILLIP W. DREW, who transfers to Akron, Ohio.

JAMES R. NASON, JR. elected executive vice-president and general manager of *S. Karpen & Bros.*, California plant located in Huntington Park. LEO KARPEN, chairman of the board of the parent company, with headquarters in Chicago, elected president of the California company.

J. CALVIN BROWN, Los Angeles, elected 1951 president of *The American Society of Mechanical Engineers*, succeeding JAMES D. CUNNINGHAM, president of *Republic Flow Meters Co.*, Chicago.

J. FRANK GEARY, formerly of Salt Lake City, Utah, named engineering administrator of *Southwestern Engineering Company*, Los Angeles.

Sunray Oil Corporation, which recently merged with *Barnsdall Oil Company*, elects C. H. WRIGHT president and director. F. B. PARRIOTT named director and chairman of the Board.

NORMAN R. SUTHERLAND, now vice-president and assistant general manager of *Pacific Gas and Electric Company*, becomes its



These men are the recently-elected officers of *Southern California division, Society of Industrial Packaging and Materials Handling Engineers*. Left to right, they are: GALE C. CUNNINGHAM, retiring president, (North American Aviation, Los Angeles) named director for 1950; JOSEPH F. BECKMAN, (Signode Steel Strapping Co., Los Angeles) past vice president, named director for 1950; RAYMOND J. STERLING, (R & R Paper Converting Co., Los Angeles) newly-elected secretary; H. A. KILMER, (North American Aviation, Los Angeles) past treasurer, named director for 1950; N. N. NORTHCROSS, (Eronel Services, Los Angeles) newly-elected treasurer; BRUCE LONG, (Blake, Moffitt & Towne, Los Angeles) retiring secretary elected vice president; and F. R. CHRISTIAN, (Lockheed Aircraft Corp., Burbank) newly-elected president for 1950.

vice-president and general manager on August 1, succeeding W. G. B. EULER, who will become executive vice-president.

F. M. BANKS, vice-president and general manager of *Southern California Gas Co.* elected president and general manager, succeeding F. S. WADE, retired.

J. D. FLETCHER, former vice-president in charge of their New York office, resigns and returns to *Caterpillar Tractor Company's* San Leandro plant as a consultant.

Idaho

AL GRAVES, Tacoma, Washington, named manager of the new Nalley plant at Boise. ELMO STARR becomes plant superintendent.

Utah

EDWARD S. FRASER becomes manager of the Salt Lake plant of *Chicago Bridge and Iron Co.*, succeeding ALLEN N. HOPPER.

R. W. AYER, formerly supervising engineer on the construction of *Salt Lake Refinery Co.*, North Salt Lake plant, named to the newly created position of refinery engineer.

F. RAY FRIEDLEY elected comptroller and a director of *Geneva Steel Company* and *Columbia Iron Mining Co.*, U. S. Steel Corp. subsidiaries, succeeding C. B. VERNOOY, who assumes new duties for the parent company.

W. C. PAGE, Salt Lake City, advances to position of vice-president and general manager of Western operations for *U. S. Smelting, Refining and Mining Company*, with headquarters remaining in Salt Lake City.

Washington

WALTER Z. DAVIS appointed chief engineer of *Brown Trailers, Inc.*, Spokane. Davis was formerly assistant to the mechanical superintendent of Kaiser Aluminum & Chemical Corp., reduction plant at Mead, Wash.

FROST SNYDER of Tacoma and Vancouver, Wash., re-elected president of *Douglas Fir Plywood Association*.

CLARENCE E. HARVEY becomes county engineer of Davenport, succeeding R. B. SHAW, retired.

Wyoming

L. M. PRATT, former vice-president and director of *Kemmerer Coal Company*, Kemmerer, Wyo., retires after more than 46 years with the company.

Associations Elect

Pacific Coast Paper Box Manufacturers' Association; George Mackie, Grigsby Brothers Paper Box Manufacturers, Portland, Oregon, president; Charles Minsky, Acme Paper Box Co., Los Angeles, vice-president; Chas. Woessner, Boxcraft Paper Box Co., Oakland, Calif., treasurer; and J. N. Mills, Pacific Coast Paper Box Manufacturers' Association, Los Angeles, executive secretary.

Western Association of Industrial Physicians and Surgeons: President, E. P. Luongo, M. D., General Petroleum Corporation, Los Angeles, California.

Electric Club of Los Angeles: President, Art H. Howard, Tri-State Supply Corporation, Los Angeles; 1st vice-president, John

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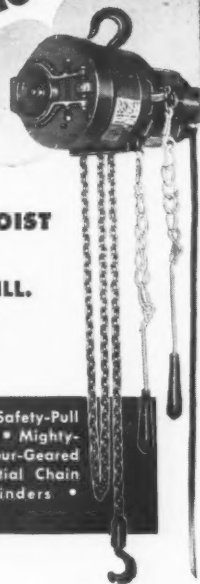
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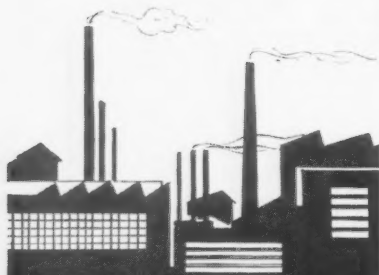
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OF LOS ANGELES

L. Tindale, Anaconda Wire & Cable Co.; 2nd vice-president, Douglas G. Kendall, Square D Company; 3rd vice-president, Douglas G. Kendall, and secretary-treasurer, Carlisle Bailey, Newbery Electric Corporation.

American Society for Testing Materials awards Certificate of Honorary Membership to Wilson C. Hanna, Chief Chemist and Chemical Engineer, California Portland Cement Company, Colton, California. This award was made in recognition of his eminence in technical work in engineering materials, and especially for meritorious service to the organization over many years.

Colorado & New Mexico Coal Operators Association: President, J. S. Besser, Colorado Fuel & Iron Corp.; vice-president, G. R. Harris, Hayden Coal Company; second vice-president, J. R. Kastler, St. Louis, Rocky Mountain & Pacific Company; secretary-treasurer, O. F. Bridwell.

American Society of Mechanical Engineers: San Francisco Section, Chairman Walter H. Kassebohm, Marchant Calculating Machine Company, Oakland, California.

Illumination Engineering Society: Leonard A. Hobbs, Smoot-Holman Co., Inglewood, California, elected to board of directors.

Pacific Coast Gas Association: President, E. G. Lawson, Pacific Public Service Company, San Francisco; vice-president, W. M. Jacobs, Southern California Gas Company, Los Angeles; treasurer, Harry McGann, Pacific Gas and Electric Company, San Francisco. Manufacturing Section—general chairman, T. T. Arden, Robertshaw-Fulton Con-

trols Co., and general vice-chairman, W. J. Bailey, Jr., Affiliated Gas Equipment, Inc.

The Rocky Mountain Coal Mining Institute: President, A. B. Foulger, Lion Coal Company, Ogden, Utah; vice presi-



A. B. FOULGER

Pacific Coal Company, Rock Springs, Wyoming.

Albuquerque Manufacturers

The Albuquerque Manufacturers Association reports that 300 manufacturing enterprises have taken hold in a city where it had long been said "You can't make manufacturing pay here."

Principal objective of the Association at this time is to work up a representative exhibit of locally made products at the New Mexico State Fair in September. R. A. Simpson, of Simpson & Son Piano Co., is president and Fremont Kutnewsky secretary.



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Air Freight Clinic Plans Outlined

Ten panel sessions will be held at the California Air Freight Clinic at the Hotel Claremont, Berkeley, Saturday, Aug. 19, covering the following topics:

Air freight economics; terminal handling; relative costs of air freight; new freight aircraft; international air freight; precooling of airflown perishables; air cargo insurance; packaging and air freight; ground transportation for air freight; California's floral industry and air freight.

Military airlift experts will participate. An air freight fair will be held the next day, Sunday, Aug. 20, at the Oakland Municipal Airport.

Pallet Service for San Francisco Shippers

An agreement signed between the Board of State Harbor Commissioners and Zane A. Stickel provides for the recovery and return of pallet boards to shippers using the port of San Francisco.

Under this new system, Stickel, upon notice from the terminal operators, will collect the empty pallets from the docks, segregate them by owner at his depot on Pier 20, and then notify the owner that his pallets are available for pickup.

This service will be offered without charge to the shipper or truck owner, the Board bearing the entire cost.

Losses from lost and pilfered pallet boards will be eliminated, and the piers will become free of stacks of pallets which formerly accumulated and hampered terminal operations.

New Inspection Method for Metals

Scientists at the Turbodyne Corp., subsidiary of Northrop Aircraft, Inc., have developed a new metal inspection process known as "Dy-Chek."

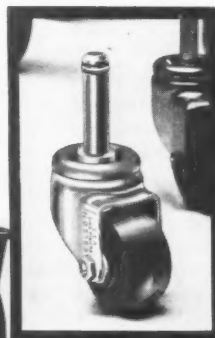
This process depends upon the controlled use of a red dye, together with other liquids, to indicate the presence of cracks or other flaws too small to be seen even with a magnifying glass.

When applied to the surface of the suspected metal, the Dy-Chek process causes a crack or other opening to "bleed" in telltale scarlet lines which emerge almost magically, and with photographic clarity, against a white background.

Researchers point out that any inspector or skilled mechanic can be quickly trained in the use of this dye penetrant method. With experience, a technician becomes able to estimate the size and probable depth of the defects shown.

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Western TRADE WINDS

News about those who distribute and
sell industrial equipment and materials

Allis-Chalmers, Milwaukee, Wis., names R. D. MOODY manager of its Los Angeles district succeeding C. W. SCHWEERS, who becomes manager of the company's New England region with headquarters in Boston. Moody is succeeded as San Francisco manager by JAMES A. LONGLEY, JR.

JAMES R. PATTERSON of Schenectady, N. Y. becomes West Coast manager of chemicals division of General Electric chemical department, with headquarters at Anaheim, succeeding C. S. FERGUSON, resigned.



Earl M. Jorgensen Co., steel distributors with plants in Los Angeles and Oakland, appoints CHARLES SCHRIEBER vice-president and director. Prior to joining Jorgensen, Schriber was a vice-president of Republic Supply Co. of California.

Refrigeration Engineering, Inc., Los Angeles, California, appoint two distributors in the Pacific Northwest: Distribution of the Recold line was changed from REFRIGERATIVE SUPPLY COMPANY to the REFRIGERATION & POWER SPECIALTIES COMPANY (RAPSCO), with headquarters in San Francisco, and active branches in Seattle, Tacoma and Portland. WAKEFIELD SUPPLY COMPANY, Spokane, covers eastern Washington.

FRANK WALLIS, formerly of Narmco, Los Angeles, joins the sales staff of Zenith Plastics Co., Gardena, California.

FREDERICK H. REIMERS, AIA, with architectural headquarters at 7958 Beverly Blvd., Los Angeles, and also in San Francisco and the east bay area, opens an Industrial Architectural Division in Los Angeles. The division will operate directly under Reimers.

THE BARKSDALE ORGANIZATION, valve manufacturers, with headquarters at 4905 Santa Fe Avenue, Los Angeles, are now representing Meletron and Crescent, two other manufacturers in allied fields.

JIM OLIVER named sales manager of Mercury Television & Radio Corporation, Los Angeles, California. Oliver formerly was connected with L. Ronney & Sons, Los Angeles furniture manufacturers.

H. L. HENNESSY named sales manager, and J. J. BARRY plant production manager of Universal Window Company, with headquarters at the firm's main office and plant at 950 Parker street, Berkeley 10, California.

The Colorado Fuel and Iron Corporation appoint RICHARD H. FRIZZELL sales manager of the Structural Products department of the Wickwire Spencer Steel division, succeeding G. L. CRAWFORD, who transfers to the

division's Buffalo sales district. Both Frizzell and Crawford will continue to headquarter at the division's offices in the Wickwire Building, located at 361 Delaware Avenue, Buffalo, N. Y.

GERALD E. GREEN of the General Electric Company's San Jose Motor Plant, named motor specialist to the company's Apparatus Department in San Francisco.

The DAILEY ELECTRIC CO., Phoenix, Ariz., named a dealer for Allis-Chalmers motors and controls and a certified service shop for the company's motors, controls and transformers in Arizona and in 13 counties in New Mexico.

James-Pond-Clark, mechanical engineers, Pasadena, California, appoint PHILIP SHEPHERD as sales manager for the concern. In the new organization, Shepherd will direct the sale of the company's line of Circle Seal Check Valves.

International Minerals & Chemical Corporation, Chicago, Illinois, appoint E. G. FREEMAN Western sales manager of Amino Products division, with headquarters at 214 Front Street, San Francisco 11, California. Freeman, in addition to handling northern California area directly, will have general supervision over the district offices in Los Angeles and Seattle, as well as responsibility for brokerage activities in the eleven Western states.

The Los Angeles sales and service organization of Detrex Corporation, manufacturers of industrial equipment and chemicals for degreasing and parts washing, adds J. J. LIPCHAK to its force.



C. A. Norgren Company, Denver, Colorado, appoints GEORGE W. WARDEN its representative for its line of pneumatic products in the Washington-Oregon territory with headquarters in Seattle, Washington.

Chase Brass & Copper Co., Incorporated, Waterbury, Conn., opens a new Denver, Colorado, sales office at 1421 Court Place. CHARLES J. McWHINNIE, formerly a salesman for Chase in their San Francisco warehouse, named manager of the Denver office. Assisting McWhinnie will be JOHN M. CERANICH as office manager. The territory embraced includes states of Colorado, Idaho, Montana, Wyoming, Utah and New Mexico.

The Brumley-Donaldson Company, distributors of foundry raw materials and equipment, announce the new location of their San Francisco Bay Area offices at 75 Market Street, Oakland, California. Telephone GLencourt 2-4761.



J. D. CHARTERS

Turco Products, Inc., Los Angeles, manufacturers of industrial chemical cleaning compounds, transfers J. D. CHARTERS from the company's Houston, Texas, division to northern California sales district with headquarters in San Francisco, succeeding the late AL MARTINEZ.

Sweden Freezer Manufacturing Company, 3401 17th Ave. West, Seattle 99, Wash., makers of soft ice cream freezing and dispensing equipment, names the **DISTRIBUTING COMPANY OF CALIFORNIA, INC.**, with office, warehouse and showroom at 800 Bay Street, San Francisco, California, as its distributor for northern California and western Nevada.

Bethlehem Pacific Coast Steel Corporation, with San Francisco offices at 20th and Illinois streets, names G. M. HUCK manager of sales, Alloy, Tool Steel and Special Products division. Huck was formerly Product Sales manager for Bethlehem. S. S. CORT, former manager of Bethlehem's Sheet and Tin Plate sales, named assistant general manager of sales.

Personnel changes at **Westinghouse Electric Corporation** include: Appointment of Ed. S. WINLUND, electronics engineer, as electronics sales representative for the Pacific Northwest, with headquarters at 3451 E. Marginal Way, Seattle, Washington. Appointment of WILLIAM U. DENT, electronics

engineer, as Far Western electronics sales representative with headquarters at 410 Bush street, San Francisco, California. Dent will have charge of the sale of marine radar, railroad and broadcasting radio, industrial radio frequency heating generators and other electronics equipment throughout an area comprising five Far Western and Southwestern states and Hawaii. Transfer of DANE O. EGBERT from the Sacramento branch to the San Francisco district offices at 410 Bush street, as industrial sales representative, succeeding HOWARD G. BROWN, retired.

ROBERT A. COSTA joins the staff of **Kaiser Gypsum**, Division of Kaiser Industries, Inc., as administrative assistant to the general sales manager, with headquarters in the Kaiser Building in Oakland, California.



LONGNECKER

Division sales manager of the organization.

Gamble-Hawkins Company, Portland, Oregon, appointed distributors for Stanley Magic Door Division of **Stanley Works**, New Britain, Conn., covering the territory of Oregon and Washington.

Continental Sales & Service Company, 5077 S. Santa Fe Ave., Vernon, California, distributor for Continental Engines, Wisconsin Engines and Rockford Clutches, names JOHN O. LONGNECKER general sales manager. Longnecker formerly held the position of Aircraft Division sales manager.

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DAVID M. SALS-BURY, formerly president of *Westinghouse Electric Supply Company*, New York City, becomes vice-president in charge of Pacific Coast operations for the supply company with headquarters at 410 Bush Street, San Francisco.

Harnischfeger Corporation, Milwaukee, manufacturer of P&H Excavators, Soil Stabilizers, Welding Equipment, Overhead Cranes and Electric Hoists, opens new district office in Denver, Colorado, at Room 415 Central Bank Building, 1108 - 15th St. T. J. JEANNERET named district manager of this office which covers Colorado, Wyoming, Utah, New Mexico, Arizona and the southeastern section of Idaho. Assisting Jenneret will be a staff of P&H factory-trained men.

Cee-Bee Chemical Co., Inc., Los Angeles manufacturers of aviation, automotive and industrial cleaning compounds, appoint LESCO, 2166 Market Street, San Francisco, its representative for the San Francisco Bay Area and northern California. J. BLAINE EUSTICE named manager.

Personnel changes at *Eaton Metal Products Company*, Denver, Colorado, include: EDWARD P. MULLER elected vice-president and manager of sales, succeeding EARL C. LISTON, resigned. WILLIAM ALLSPACH named manager of Oil Equipment division, and EUGENE CLARK appointed manager of the Special Products division.

DOUGLAS E. NEWTON named general manager in charge of sales and sales promotion for *Denver Equipment Company*, Denver, Colorado. Before accepting his new assignment, Newton was in charge of the Deco plant at Colorado Springs.

Oregon Handling Equipment Company of Portland, Oregon, have taken on the Marvel Industries line. MARVEL, whose factory is in Skokie, Illinois, manufacture Liftomatic Barrel Trucks.

Detecto Scales, Inc., 540 Park Avenue, Brooklyn, N. Y., names C. H. VILM, Denver, Colorado, its representative in the Detecto-Gram Industrial Division. R. W. HOOKER, Phoenix, Arizona, becomes Detecto's representative in that area.



J. HOLZ

A. R. Maas Chemical Company, Division of Victor Chemical Works, appoints JOHN HOLZ manager of sales, photographic division. Hotz is a graduate chemical engineer and has been active in the research department prior to his transfer to the chemical sales division several years ago.

Air Reduction Pacific Company, San Francisco and Los Angeles, California, a division of *Air Reduction Company*, New York, named Western distributor for the welding industry of the recently introduced Prepo Torch.

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It's the Package, Not the Temperature

Type of packaging material was found to be of greater importance than storage temperature for retention of quality of precooked frozen creamed turkey, chicken, and peas, according to the findings of Helen L. Hanson, H. Margaret Winegarden, Mary B. Horton, and Hans Lineweaver, of the Western Regional Research Laboratory, Berkeley, California.

In an excellent container (a sealed can or approximate equivalent in protective qualities) storage temperatures ranging from plus 10° F to minus 30° F had no effect on off-flavor de-

velopment in these products after storage for periods of 8 to 12 months.

In a less protective container, one often used in commercial practice, the storage temperature was important in maintaining quality.

Cooked frozen peas have been found to develop an off flavor in storage more rapidly than similar peas that were adequately blanched. However, when the cooked vegetables were combined with a sauce, as they would be in a typical frozen mixture, their storage stability was essentially the same as that of the blanched peas.

It has been shown that the reheating period is of great importance in retaining high quality in precooked frozen foods. Slightly prolonged periods of reheating cooked frozen vegetables caused enough deterioration in color and texture to nullify the advantages obtained by use of high-quality raw material and optimum conditions of processing and storage.

Welding Demonstration

Automatic submerged arc welding, wrinkle bending, and other phases of the modern torchman's art were described and demonstrated to more than 100 short coursers at a three-day school closing at California State Polytechnic College's San Luis Obispo campus June 23.

Held at instance of the trade, the Cal Poly short course attracted welding employees, executives and instructors from throughout the state and Chairman R. C. Wiley said plans already are under way for another similar course next summer.

Trade figures participating as lecturers and instructors included: Russell H. Rhoades, Linde Air Products Company, San Francisco; Lee Reay and A. H. Butler, Linde men from Los Angeles; H. R. Stickland, Haynes Stellite Company, San Francisco; Carl

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Geiger, Air Reduction Pacific Company, Los Angeles; K. V. Lutz, All-State Welding Alloys Company, San Jose; R. J. Lafferty, Handry and Harman Company, Los Angeles; A. R. Wynn, Harnischfeger Corporation, Los Angeles.

Demonstrations included uses of the oxy-acetylene flame for braze welding, hard surfacing, flame hardening, wrinkle bending, heating and forming.

There were other demonstrations in handling methods, industrial safety, arc welding training for casual users, automatic submerged arc welding, low temperature brazing alloys, high frequency in inert-gas-shielded-arc-welding, low temperature brazing.

Most popular part of the program, however, was the late afternoon and evening practice and experiment time when Cal Poly's extensive welding shops were thrown open to use by short coursers under supervision of visiting trade men and Cal Poly instructors.

Economic and Industrial California

California Manufacturers Association predicted in late June a 62% sales increase in third quarter of the year for its members. Estimated carloadings for Pacific Coast Transportation Advisory Board territory for third quarter 4.7% above last year. Pacific Northwest Advisory Board reported forest products loadings first half of year as highest since 1942. Total carloadings slightly above last year, but below the four years before.

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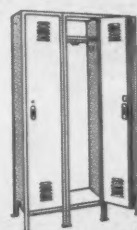
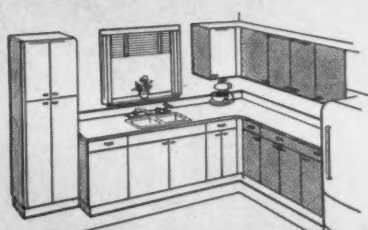
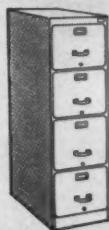
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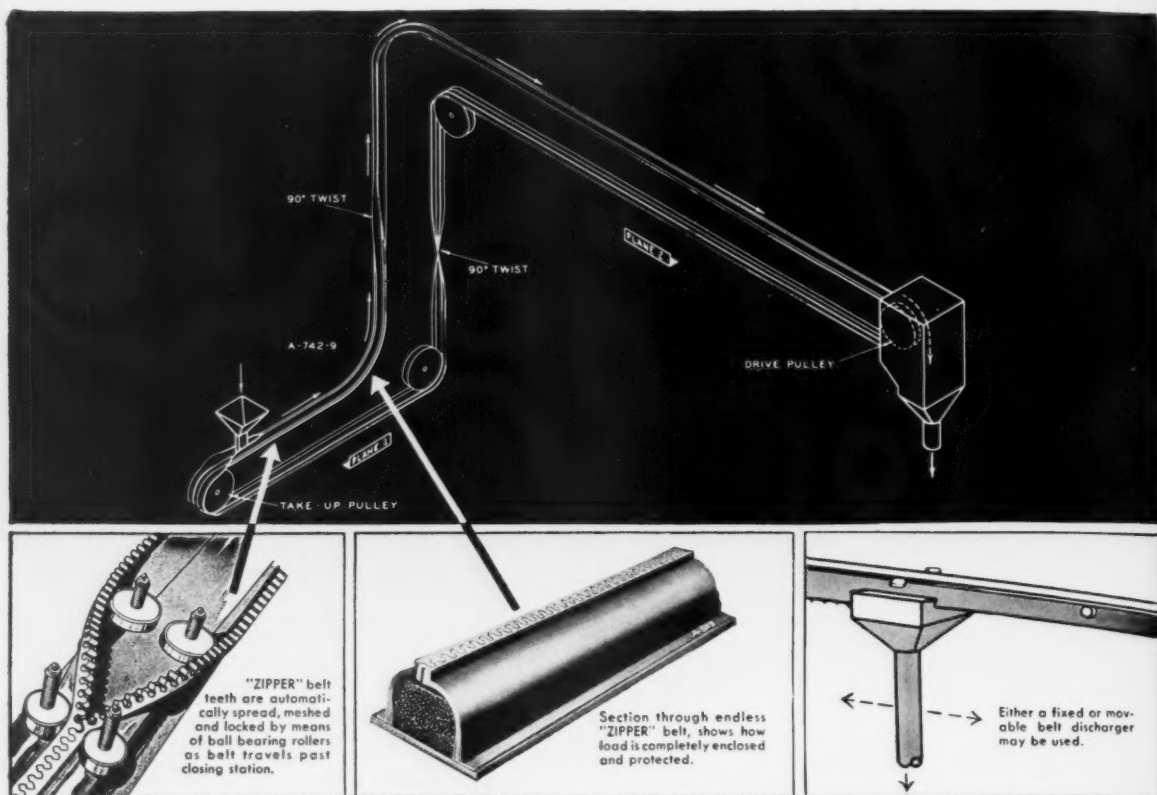
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